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Note: This is an early version of the *AP 42, Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources*. EPA has made this available for historical reference purposes. The latest emission factors are available on the AP42 webpage.

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COMPILATION OF AIR POLLUTANT EMISSION FACTORS

Volume I: Stationary Point And Area Sources

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office Of Air And Radiation
Office Of Air Quality Planning And Standards
Research Triangle Park, North Carolina 27711

September 1985

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7.5 IRON AND STEEL PRODUCTION

7.5.1 Process Description and Emissions[1-2]

Iron and steel manufacturing may be grouped into eight generic process operations: 1) coke production, 2) sinter production, 3) iron production, 4) steel production, 5) semifinished product preparation, 6) finished product preparation, 7) heat and electricity supply and 8) handling and transport of raw, intermediate and waste materials. Figure 7.5-1, a general flow diagram of the iron and steel industry, interrelates these categories. Coke production is discussed in detail in Section 7.2 of this publication, and more information on the handling and transport of materials is found in Chapter 11.

Sinter Production - The sintering process converts fine raw materials like fine iron ore, coke breeze, fluxstone, mill scale and flue dust into an agglomerated product of suitable size for charging into a blast furnace. The materials are mixed with water to provide cohesion in a mixing mill and are placed on a continuous moving grate called the sinter strand. A burner hood above the front third of the sinter strand ignites the coke in the mixture. Once ignited, combustion is self supporting and provides sufficient heat, 1300 to 1480°C (2400 to 2700°F), to cause surface melting and agglomeration of the mix. On the underside of the sinter machine lie windboxes that draw the combusted air through the material bed into a common duct to a particulate control device. The fused sinter is discharged at the end of the sinter machine, where it is crushed and screened, and any undersize portion is recycled to the mixing mill. The remaining sinter is cooled in open air by water spray or by mechanical fan to draw off the heat from the sinter. The cooled sinter is screened a final time, with the fines being recycled and the rest being sent to charge the blast furnaces.

Emissions occur at several points in the sintering process. Points of particulate generation are the windbox, the discharge (sinter crusher and hot screen), the cooler and the cold screen. In addition, inplant transfer stations generate emissions which can be controlled by local enclosures. All the above sources except the cooler normally are vented to one or two control systems.

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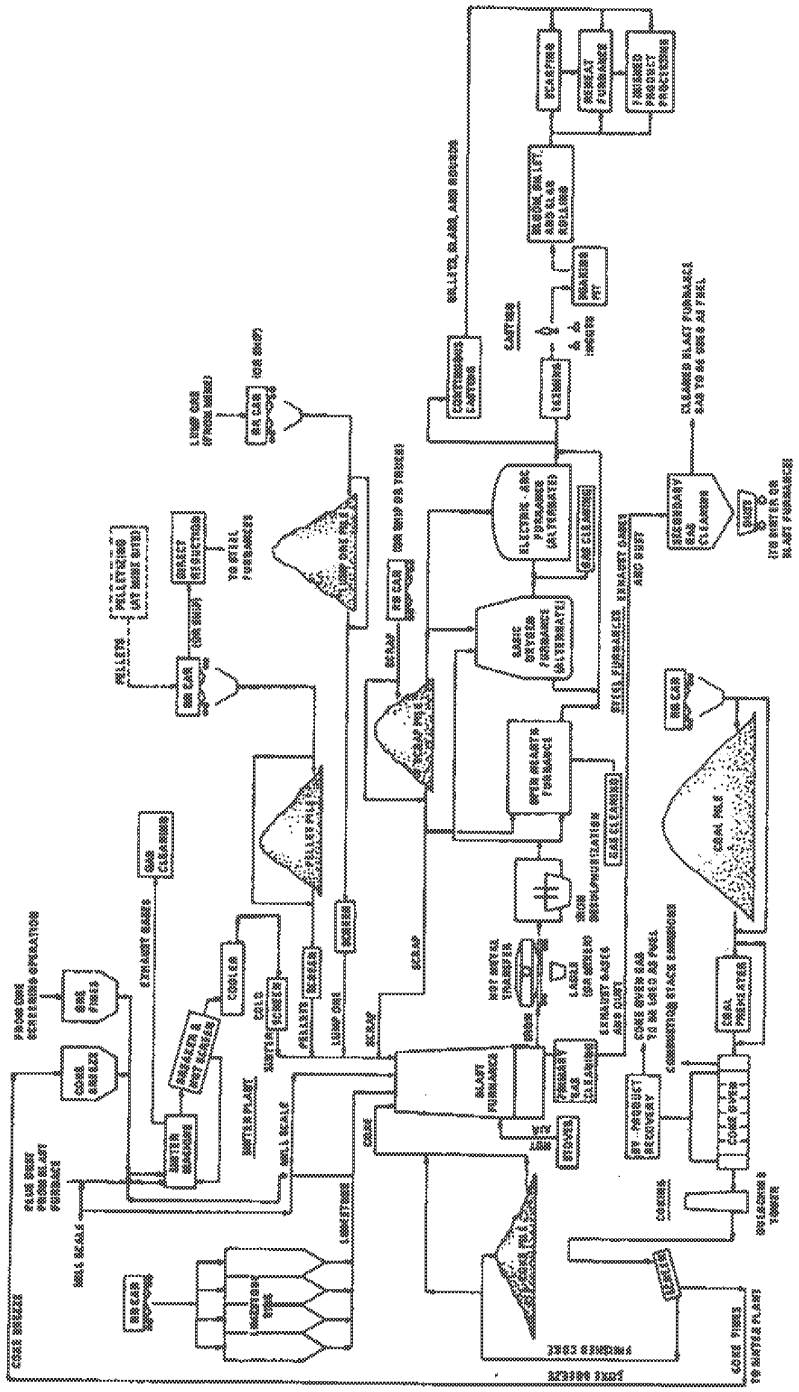


Figure 7.5-1. General flow diagram for the iron and steel industry.

Because of its high carbon monoxide content, this blast furnace gas has a low heating value, about 2790 to 3350 joules per cubic liter (75 to 90 BTU/ft^3) and is used as a fuel within the steel plant. Before it can be efficiently oxidized, however, the gas must be cleaned of particulate. Initially, the gases pass through a settling chamber or dry cyclone to remove about 60 percent of the particulate. Next, the gases undergo a one or two stage cleaning operation. The primary cleaner is normally a wet scrubber, which removes about 90 percent of the remaining particulate. The secondary cleaner is a high energy wet scrubber (usually a venturi) or an electrostatic precipitator, either of which can remove up to 90 percent of the particulate that eludes the primary cleaner. Together these control devices provide a clean fuel of less than 0.05 grams per cubic meter (0.02 gr/ft^3) for use in the steel plant.

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There are several sources of emissions in the basic oxygen furnace steel making process, 1) the furnace mouth during refining - with collection by local full (open) or suppressed (closed) combustion hoods, 2) hot metal transfer to charging ladle, 3) charging scrap and hot metal, 4) dumping slag and 5) tapping steel.

Steel Production (Electric Arc Furnaces) - Electric arc furnaces (EAF) are used to produce carbon and alloy steels. The charge to an EAF is nearly

always 100 percent scrap. Direct arc electrodes through the roof of the furnace melt the scrap. An oxygen lance may or may not be used to speed the melting and refining process. Cycles range from 1-1/2 to 5 hours for carbon steel and from 5 to 10 hours for alloy steel.

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Steel Production (Open Hearth Furnaces) - In the open hearth furnace (OHF), a mixture of iron and steel scrap and hot metal (molten iron) is melted in a shallow rectangular basin or "hearth". Burners producing a flame above the charge provide the heat necessary for melting. The mixture of scrap and hot metal can vary from all scrap to all hot metal, but a half and half mixture is a reasonable industry average. The process may or may not be oxygen lanced, with process cycle times approximately 8 hours and 10 hours, respectively.

Sources of emissions in the open hearth furnace steel making process are 1) transferring hot metal, 2) melting and refining the heat, 3) charging of scrap and/or hot metal, 4) dumping slag and 5) tapping steel.

Semifinished Product Preparation - After the steel has been tapped, the molten metal is teemed into ingots which are later heated to form blooms, billets or slabs. (In a continuous casting operation, the molten metal may bypass this entire process.) The product next goes through a process of surface preparation of semifinished steel (scarfing). A scarfing machine removes surface defects before shaping or rolling of the steel billets, blooms and slabs by applying jets of oxygen to the surface of the steel, which is at orange heat, thus removing a thin layer of the metal by rapid oxidation. Scarfing can be performed by machine on hot semifinished steel or by hand on cold or slightly heated semifinished steel. Emissions occur during teeming as the molten metal is poured, and when the semifinished steel products are manually or machine scarfed to remove surface defects.

Miscellaneous Combustion Sources - Iron and steel plants require energy (heat or electricity) for every plant operation. Some energy operations on plant property that produce emissions are boilers, soaking pits and slab furnaces which burn coal, No. 2 fuel oil, natural gas, coke oven gas or blast furnace gas. In soaking pits, ingots are heated until the temperature distribution over the cross section of the ingots is acceptable and the surface temperature is uniform for further rolling into semifinished products (blooms, billets and slabs). In slab furnaces, a slab is heated before being rolled into finished products (plates, sheets or strips). The emissions from the combustion of natural gas, fuel oil or coal for boilers

can be found in Chapter 1 of this document. Estimated emissions from these same fuels used in soaking pits or slab furnaces can be the same as those for boilers, but since it is estimation, the factor rating drops to D.

Emission factor data for blast furnace gas and coke oven gas are not available and must be estimated. There are three facts available for making the estimation. First, the gas exiting the blast furnace passes through primary and secondary cleaners and can be cleaned to less than 0.05 grams per cubic meter (0.02 gr/ft^3). Second, nearly one third of the coke oven gas is methane. Third, there are no blast furnace gas constituents that generate particulate when burned. The combustible constituent of blast furnace gas is CO, which burns clean. Based on facts one and three, the emission factor for combustion of blast furnace gas is equal to the particulate loading of that fuel, 0.05 grams per cubic meter (2.9 lb/10^6 ft^3).

Emissions for combustion of coke oven gas can be estimated in the same fashion. Assume that cleaned coke oven gas has as much particulate as cleaned blast furnace gas. Since one third of the coke oven gas is methane, the main component of natural gas, it is assumed that the combustion of this methane in coke oven gas generates 0.06 grams per cubic meter (3.3 lb/10^6 ft^3) of particulate. Thus, the emission factor for the combustion of coke oven gas is the sum of the particulate loading and that generated by the methane combustion, or 0.1 grams per cubic meter (6.2 lb/10^6 ft^3).

Open Dust Sources - Like process emission sources, open dust sources contribute to the atmospheric particulate burden. Open dust sources include 1) vehicle traffic on paved and unpaved roads, 2) raw material handling outside of buildings and 3) wind erosion from storage piles and exposed terrain. Vehicle traffic consists of plant personnel and visitor vehicles; plant service vehicles; and trucks handling raw materials, plant deliverables, steel products and waste materials. Raw materials are handled by clamshell buckets, bucket/ladder conveyors, rotary railroad dumps, bottom railroad dumps, front end loaders, truck dumps, and conveyor transfer stations, all of which disturb the raw material and expose fines to the wind. Even fine materials resting on flat areas or in storage piles are exposed and are subject to wind erosion. It is not unusual to have several million tons of raw materials stored at a plant and to have in the range of 10 to 100 acres of exposed area there.

Open dust source emission factors for iron and steel production are presented in Table 7.5-1. These factors were determined through source testing at various integrated iron and steel plants.

As an alternative to the single valued open dust emission factors given in Table 7.5-1, empirically derived emission factor equations are presented in Chapter 11 of this document. Each equation was developed for a source operation defined on the basis of a single dust generating mechanism which crosses industry lines, such as vehicle traffic on unpaved roads. The predictive equation explains much of the observed variance in measured emission factors by relating emissions to parameters which characterize source conditions. These parameters may be grouped into three categories: 1) measures of source activity or energy expended (e.g., the speed

TABLE 7.5-1. UNCONTROLLED PARTICULATE EMISSION FACTORS FOR OPEN DUST SOURCES AT IRON AND STEEL MILLS[a]

Operation	Emissions by particle size range (aerodynamic diameter) < 30 μm	< 15 μm	< 10 μm	< 5 μm	< 2.5 μm	Units[b]	Emission Factor Rating
Continuous drop							
Conveyor transfer station							
Sinter[c]	13	9.0	6.5	4.2	2.3	g/Mg	D
	0.026	0.018	0.013	0.0084	0.0046	lb/T	D
Pile formation - stacker							
Pellet ore[c]	1.2	0.75	0.55	0.32	0.17	g/Mg	B
	0.0024	0.0015	0.0011	0.00064	0.00034	lb/T	B
Lump ore[c]	0.15	0.095	0.075	0.040	0.022	g/Mg	C
	0.00030	0.00019	0.00015	0.000081	0.000043	lb/T	C
Coal[d]	0.055	0.034	0.026	0.014	0.0075	g/Mg	E
	0.00011	0.000069	0.000052	0.000029	0.000015	lb/T	E
Batch drop							
Front end loader/truck[c]							
High silt slag	13	8.5	6.5	4.0	2.3	g/Mg	C
	0.026	0.017	0.013	0.0080	0.0046	lb/T	C
Low silt slag	4.4	2.9	2.2	1.4	0.80	g/Mg	C
	0.0088	0.0058	0.0043	0.0028	0.0016	lb/T	C
Vehicle travel on unpaved roads							
Light duty vehicle[d]	0.51	0.37	0.28	0.18	0.10	kg/VKT	C
	1.8	1.3	1.0	0.64	0.37	lb/VMT	C
Medium duty vehicle[d]	2.1	1.5	1.2	0.70	0.42	kg/VKT	C
	7.3	5.2	4.1	2.5	1.5	lb/VMT	C
Heavy duty vehicle[b]	3.9	2.7	2.1	1.4	0.76	kg/VKT	B
	14	9.7	7.6	4.8	2.7	lb/VMT	B
Vehicle travel on paved roads							
Light/heavy vehicle mix[c]	0.22	0.16	0.12	0.079	0.042	kg/VKT	C
	0.78	0.56	0.44	0.28	0.15	lb/VMT	C

[a] Predictive emission factor equations, which generally provide more accurate estimates of emissions, are presented in Chapter 11.
[b] Units/unit of material transferred. Units/unit of distance traveled.
[c] Reference 3. Interpolation to other particle sizes will be approximate.
[d] Reference 4. Interpolation to other particle sizes will be approximate.

and weight of a vehicle traveling on an unpaved road), 2) properties of the material being disturbed (e.g., the content of suspendible fines in the surface material on an unpaved road) and 3) climatic parameters (e.g., number of precipitation free days per year, when emissions tend to a maximum).

Because the predictive equations allow for emission factor adjustment to specific source conditions, the equations should be used in place of the factors in Table 7.5-1, if emission estimates for sources in a specific iron and steel facility are needed. However, the generally higher quality ratings assigned to the equations are applicable only if 1) reliable values of correction parameters have been determined for the specific sources of interest and 2) the correction parameter values lie within the ranges tested in developing the equations. Chapter 11 lists measured properties of aggregate process materials and road surface materials in the iron and steel industry, which can be used to estimate correction parameter values for the predictive emission factor equations, in the event that site specific values are not available. Use of mean correction parameter values from Chapter 11 reduces the quality ratings of the emission factor equation by one level.

Particulate emission factors for iron and steel plant processes are in Table 7.5-2. These emission factors are a result of an extensive investigation by EPA and the American Iron and Steel Institute.[2] Carbon monoxide emission factors are in Table 7.5-3.[5]

TABLE 7.5-2. PARTICULATE EMISSION FACTORS FOR IRON AND STEEL MILLS[a]

Source	Units	Emissions		Emission Factor Rating
Blast furnaces				
Slips	kg (lb)/slip	39.5	(87)	D
Uncontrolled cast house emissions	kg/Mg (lb/ton) hot metal			
Monitor		0.3	(0.6)	B
Tap hole and trough (not runners)		0.15	(0.3)	B
Sintering				
Windbox emissions	kg/Mg (lb/ton) finished sinter			
Uncontrolled				
Leaving grate		5.56	(11.1)	B
After coarse particulate removal		4.35	(8.7)	A
Controlled by dry ESP		0.8	(1.6)	B
Controlled by wet ESP		0.085	(0.17)	B
Controlled by scrubber		0.235	(0.47)	B
Controlled by cyclone		0.5	(1)	B
Sinter discharge (breaker and hot screens)	kg/Mg (lb/ton) finished sinter			
Uncontrolled		3.4	(6.8)	B
Controlled by baghouse		0.05	(0.1)	B
Controlled by orifice scrubber		0.295	(0.59)	A
Windbox and discharge	kg/Mg (lb/ton) finished sinter			
Controlled by baghouse		0.15	(0.3)	A
Basic oxygen furnaces				
Top blown furnace melting and refining	kg/Mg (lb/ton) steel			
Uncontrolled		14.25	(28.5)	B
Controlled by open hood vented to:				
ESP		0.065	(0.13)	A
Scrubber		0.045	(0.09)	B
Controlled by closed hood vented to:				
Scrubber		0.0034	(0.0068)	A
QBOP melting and refining	kg/Mg (lb/ton) steel			
Controlled by scrubber		0.028	(0.056)	A
Charging	kg/Mg (lb/ton) hot metal			
At source		0.3	(0.6)	A
At building monitor		0.071	(0.142)	B
Tapping	kg/Mg (lb/ton) steel			
At source		0.46	(0.92)	A
At building monitor		0.145	(0.29)	B
Hot metal transfer	kg/Mg (lb/ton) hot metal			
At source		0.095	(0.19)	A
At building monitor		0.028	(0.056)	B
BOF monitor (all sources)	kg/Mg (lb/ton) steel	0.25	(0.5)	B
Electric arc furnaces				
Melting and refining	kg/Mg (lb/ton) steel			
Uncontrolled				
Carbon steel		19	(38)	C
Charging, tapping and slagging	kg/Mg (lb/ton) steel			
Uncontrolled emissions escaping monitor		0.7	(1.4)	C
Melting, refining, charging, tapping and slagging	kg/Mg (lb/ton) steel			
Uncontrolled				
Alloy steel		5.65	(11.3)	A
Carbon steel		25	(50)	C
Controlled by:				
Configuration 1 (building evacuation to baghouse for alloy steel)		0.15	(0.3)	A
Configuration 2 (DSE plus charging hood vented to common baghouse for carbon steel)		0.0215	(0.043)	C

(continued)

TABLE 7.5-2. PARTICULATE EMISSION FACTORS FOR IRON AND STEEL MILLS[a] (continued)

Source	Units	Emissions		Emission Factor Rating
Open hearth furnaces				
Melting and refining	kg/Mg (lb/ton) steel			
Uncontrolled		10.55	(21.1)	A
Controlled by ESP		0.14	(0.28)	A
Roof monitor emissions		0.084	(0.168)	C
Teeming				
Leaded steel	kg/Mg (lb/ton) steel			
Uncontrolled (as measured at the source)		0.405	(0.81)	A
Controlled by side draft hood vented to baghouse		0.0019	(0.0038)	A
Unleaded steel				
Uncontrolled (as measured at the source)		0.035	(0.07)	A
Controlled by side draft hood vented to baghouse		0.0008	(0.0016)	A
Machine scarfing				
Uncontrolled	kg/Mg (lb/ton) metal through scarfer	0.05	(0.1)	B
Controlled by ESP		0.0115	(0.023)	A
Miscellaneous combustion sources[b]				
Boilers, soaking pits and slab reheat furnaces	kg/10^6 J (lb/10^6 BTU)			
Blast furnace gas		0.015	(0.035)	D
Coke oven gas		0.0052	(0.012)	D

[a] Reference 2. ESP = electrostatic precipitator. DSE = direct shell evacuation.
[b] For fuels such as coal, fuel oil and natural gas, use the emission factors presented in Chapter 1 of this document. The factor rating for these fuels in boilers is A, and in soaking pits and slab reheat furnaces is D.

TABLE 7.5-3. UNCONTROLLED CARBON MONOXIDE EMISSION FACTORS FOR IRON AND STEEL MILLS[a]

EMISSION FACTOR RATING: C

Source	kg/Mg	lb/ton
Sintering windbox[b]	22	44
Basic oxygen furnace	69	138
Electric arc furnace	9	18

[a] Reference 5.
[b] Expressed as units of emissions per unit of finished sinter.

References for Section 7.5

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3. R. Bohn, et al., Fugitive Emissions from Integrated Iron and Steel Plants, EPA-600/2-78-050, U. S. Environmental Protection Agency, Research Triangle Park, NC, March 1978.

4. C. Cowherd, Jr., et al., Iron and Steel Plant Open Source Fugitive Emission Evaluation, EPA-600/2-79-103, U. S. Environmental Protection Agency, Research Triangle Park, NC, May 1979.

5. Control Techniques for Carbon Monoxide Emissions from Stationary Sources, AP-65, U. S. Department of Health, Education and Welfare, Washington, DC, March 1970.

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AP-42
Supplement 14

SUPPLEMENT NO. 14
FOR

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DRAFT

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Office of Air, Noise and Radiation
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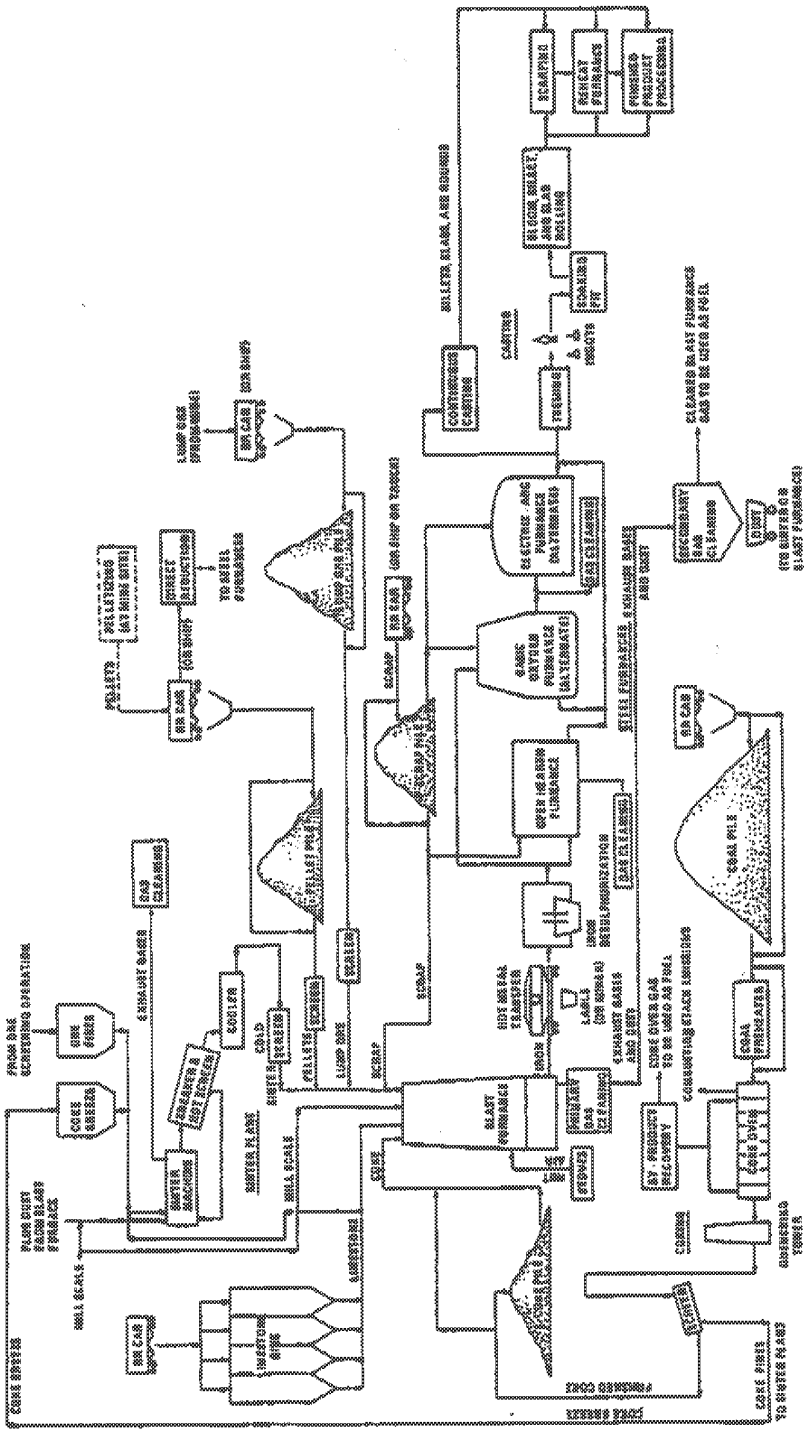


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always 100 percent scrap. Direct arc electrodes through the roof of the furnace melt the scrap. An oxygen lance may or may not be used to speed the melting and refining process. Cycles range from 1-1/2 to 5 hours for carbon steel and from 5 to 10 hours for alloy steel.

Sources of emissions in the electric arc furnace steel making process are 1) emissions from melting and refining, often vented through a hole in the furnace roof, 2) charging scrap, 3) dumping slag and 4) tapping steel. In interpreting and using emission factors for EAFs, it is important to know what configuration one is dealing with. For example, if an EAF has a building evacuation system, the emission factor before the control device would represent all melting, refining, charging, tapping and slagging emissions which ascend to the building roof. Reference 2 has more details on various configurations used to control electric arc furnaces.

Steel Production (Open Hearth Furnaces) - In the open hearth furnace (OHF), a mixture of iron and steel scrap and hot metal (molten iron) is melted in a shallow rectangular basin or "hearth". Burners producing a flame above the charge provide the heat necessary for melting. The mixture of scrap and hot metal can vary from all scrap to all hot metal, but a half and half mixture is a reasonable industry average. The process may or may not be oxygen lanced, with process cycle times approximately 8 hours and 10 hours, respectively.

Sources of emissions in the open hearth furnace steel making process are 1) transferring hot metal, 2) melting and refining the heat, 3) charging of scrap and/or hot metal, 4) dumping slag and 5) tapping steel.

Semifinished Product Preparation - After the steel has been tapped, the molten metal is teemed into ingots which are later heated to form blooms, billets or slabs. (In a continuous casting operation, the molten metal may bypass this entire process.) The product next goes through a process of surface preparation of semifinished steel (scarfing). A scarfing machine removes surface defects before shaping or rolling of the steel billets, blooms and slabs by applying jets of oxygen to the surface of the steel, which is at orange heat, thus removing a thin layer of the metal by rapid oxidation. Scarfing can be performed by machine on hot semifinished steel or by hand on cold or slightly heated semifinished steel. Emissions occur during teeming as the molten metal is poured, and when the semifinished steel products are manually or machine scarfed to remove surface defects.

Miscellaneous Combustion Sources - Iron and steel plants require energy (heat or electricity) for every plant operation. Some energy operations on plant property that produce emissions are boilers, soaking pits and slab furnaces which burn coal, No. 2 fuel oil, natural gas, coke oven gas or blast furnace gas. In soaking pits, ingots are heated until the temperature distribution over the cross section of the ingots is acceptable and the surface temperature is uniform for further rolling into semifinished products (blooms, billets and slabs). In slab furnaces, a slab is heated before being rolled into finished products (plates, sheets or strips). The emissions from the combustion of natural gas, fuel oil or coal for boilers

can be found in Chapter 1 of this document. Estimated emissions from these same fuels used in soaking pits or slab furnaces can be the same as those for boilers, but since it is estimation, the factor rating drops to D.

Emission factor data for blast furnace gas and coke oven gas are not available and must be estimated. There are three facts available for making the estimation. First, the gas exiting the blast furnace passes through primary and secondary cleaners and can be cleaned to less than 0.05 grams per cubic meter (0.02 gr/ft^3). Second, nearly one third of the coke oven gas is methane. Third, there are no blast furnace gas constituents that generate particulate when burned. The combustible constituent of blast furnace gas is CO, which burns clean. Based on facts one and three, the emission factor for combustion of blast furnace gas is equal to the particulate loading of that fuel, 0.05 grams per cubic meter (2.9 lb/10^6 ft^3).

Emissions for combustion of coke oven gas can be estimated in the same fashion. Assume that cleaned coke oven gas has as much particulate as cleaned blast furnace gas. Since one third of the coke oven gas is methane, the main component of natural gas, it is assumed that the combustion of this methane in coke oven gas generates 0.06 grams per cubic meter (3.3 lb/10^6 ft^3) of particulate. Thus, the emission factor for the combustion of coke oven gas is the sum of the particulate loading and that generated by the methane combustion, or 0.1 grams per cubic meter (6.2 lb/10^6 ft^3).

Open Dust Sources - Like process emission sources, open dust sources contribute to the atmospheric particulate burden. Open dust sources include 1) vehicle traffic on paved and unpaved roads, 2) raw material handling outside of buildings and 3) wind erosion from storage piles and exposed terrain. Vehicle traffic consists of plant personnel and visitor vehicles; plant service vehicles; and trucks handling raw materials, plant deliverables, steel products and waste materials. Raw materials are handled by clamshell buckets, bucket/ladder conveyors, rotary railroad dumps, bottom railroad dumps, front end loaders, truck dumps, and conveyor transfer stations, all of which disturb the raw material and expose fines to the wind. Even fine materials resting on flat areas or in storage piles are exposed and are subject to wind erosion. It is not unusual to have several million tons of raw materials stored at a plant and to have in the range of 10 to 100 acres of exposed area there.

Open dust source emission factors for iron and steel production are presented in Table 7.5-1. These factors were determined through source testing at various integrated iron and steel plants.

As an alternative to the single valued open dust emission factors given in Table 7.5-1, empirically derived emission factor equations are presented in Chapter 11 of this document. Each equation was developed for a source operation defined on the basis of a single dust generating mechanism which crosses industry lines, such as vehicle traffic on unpaved roads. The predictive equation explains much of the observed variance in measured emission factors by relating emissions to parameters which characterize source conditions. These parameters may be grouped into three categories: 1) measures of source activity or energy expended (e.g., the speed

TABLE 7.5-1. UNCONTROLLED PARTICULATE EMISSION FACTORS FOR OPEN DUST SOURCES AT IRON AND STEEL MILLS[a]

Operation	Emissions by particle size range (aerodynamic diameter) < 30 μm	< 15 μm	< 10 μm	< 5 μm	< 2.5 μm	Units[b]	Emission Factor Rating
Continuous drop							
Conveyor transfer station[c]							
Sinter	13	9.0	6.5	4.2	2.3	g/Mg	D
	0.026	0.018	0.013	0.0084	0.0046	lb/T	D
Pile formation - stacker							
Pellet ore[c]	1.2	0.75	0.55	0.32	0.17	g/Mg	B
	0.0024	0.0015	0.0011	0.00064	0.00034	lb/T	B
Lump ore[c]	0.15	0.095	0.075	0.040	0.022	g/Mg	C
	0.00030	0.00019	0.00015	0.000081	0.000043	lb/T	C
Coal[d]	0.055	0.034	0.026	0.014	0.0075	g/Mg	E
	0.00011	0.000069	0.000052	0.000029	0.000015	lb/T	E
Batch drop							
Front end loader/truck[c]							
High silt slag	13	8.5	6.5	4.0	2.3	g/Mg	C
	0.026	0.017	0.013	0.0080	0.0046	lb/T	C
Low silt slag	4.4	2.9	2.2	1.4	0.80	g/Mg	C
	0.0088	0.0058	0.0043	0.0028	0.0016	lb/T	C
Vehicle travel on unpaved roads							
Light duty vehicle[d]	0.51	0.37	0.28	0.18	0.10	kg/VKT	C
	1.8	1.3	1.0	0.64	0.37	lb/VMT	C
Medium duty vehicle[d]	2.1	1.5	1.2	0.78	0.42	kg/VKT	C
	7.3	5.2	4.1	2.8	1.5	lb/VMT	C
Heavy duty vehicle[b]	3.9	2.7	2.1	1.4	0.76	kg/VKT	B
	14	9.7	7.6	4.8	2.7	lb/VMT	B
Vehicle travel on paved roads							
Light/heavy vehicle mix[c]	0.22	0.16	0.12	0.079	0.042	kg/VKT	C
	0.78	0.56	0.44	0.28	0.15	lb/VMT	C

[a] Predictive emission factor equations, which generally provide more accurate estimates of emissions, are presented in Chapter 11.
[b] Units/unit of material transferred. Units/unit of distance traveled.
[c] Reference 3. Interpolation to other particle sizes will be approximate.
[d] Reference 4. Interpolation to other particle sizes will be approximate.

and weight of a vehicle traveling on an unpaved road), 2) properties of the material being disturbed (e.g., the content of suspendible fines in the surface material on an unpaved road) and 3) climatic parameters (e.g., number of precipitation free days per year, when emissions tend to a maximum).

Because the predictive equations allow for emission factor adjustment to specific source conditions, the equations should be used in place of the factors in Table 7.5-1, if emission estimates for sources in a specific iron and steel facility are needed. However, the generally higher quality ratings assigned to the equations are applicable only if 1) reliable values of correction parameters have been determined for the specific sources of interest and 2) the correction parameter values lie within the ranges tested in developing the equations. Chapter 11 lists measured properties of aggregate process materials and road surface materials in the iron and steel industry, which can be used to estimate correction parameter values for the predictive emission factor equations, in the event that site specific values are not available. Use of mean correction parameter values from Chapter 11 reduces the quality ratings of the emission factor equation by one level.

Particulate emission factors for iron and steel plant processes are in Table 7.5-2. These emission factors are a result of an extensive investigation by EPA and the American Iron and Steel Institute.[2] Carbon monoxide emission factors are in Table 7.5-3.[5]

TABLE 7.5-2. PARTICULATE EMISSION FACTORS FOR IRON AND STEEL MILLS[a]

Source	Units	Emissions		Emission Factor Rating
Blast furnaces				
Slips	kg (lb)/slip	39.5	(87)	D
Uncontrolled cast house emissions	kg/Mg (lb/ton) hot metal			
Monitor		0.3	(0.6)	B
Tap hole and trough (not runners)		0.15	(0.3)	B
Sintering				
Windbox emissions	kg/Mg (lb/ton) finished sinter			
Uncontrolled				
Leaving grate		5.56	(11.1)	B
After coarse particulate removal		4.35	(8.7)	A
Controlled by dry ESP		0.8	(1.6)	B
Controlled by wet ESP		0.085	(0.17)	B
Controlled by scrubber		0.235	(0.47)	B
Controlled by cyclone		0.5	(1)	B
Sinter discharge (breaker and hot screens)	kg/Mg (lb/ton) finished sinter			
Uncontrolled		3.4	(6.8)	B
Controlled by baghouse		0.05	(0.1)	B
Controlled by orifice scrubber		0.295	(0.59)	A
Windbox and discharge	kg/Mg (lb/ton) finished sinter			
Controlled by baghouse		0.15	(0.3)	A
Basic oxygen furnaces				
Top blown furnace melting and refining	kg/Mg (lb/ton) steel			
Uncontrolled		14.25	(28.5)	B
Controlled by open hood vented to:				
ESP		0.065	(0.13)	A
Scrubber		0.045	(0.09)	B
Controlled by closed hood vented to:				
Scrubber		0.0034	(0.0068)	A
OBOP melting and refining	kg/Mg (lb/ton) steel			
Controlled by scrubber		0.028	(0.056)	A
Charging	kg/Mg (lb/ton) hot metal			
At source		0.3	(0.6)	A
At building monitor		0.071	(0.142)	B
Tapping	kg/Mg (lb/ton) steel			
At source		0.46	(0.92)	A
At building monitor		0.145	(0.29)	B
Hot metal transfer	kg/Mg (lb/ton) hot metal			
At source		0.095	(0.19)	A
At building monitor		0.028	(0.056)	B
BOF monitor (all sources)	kg/Mg (lb/ton) steel	0.25	(0.5)	B
Electric arc furnaces				
Melting and refining	kg/Mg (lb/ton) steel			
Uncontrolled				
Carbon steel		19	(38)	C
Charging, tapping and slagging	kg/Mg (lb/ton) steel			
Uncontrolled emissions escaping monitor		0.7	(1.4)	C
Melting, refining, charging, tapping and slagging	kg/Mg (lb/ton) steel			
Uncontrolled				
Alloy steel		5.65	(11.3)	A
Carbon steel		25	(50)	C
Controlled by:				
Configuration 1 (building evacuation to baghouse for alloy steel)		0.15	(0.3)	A
Configuration 2 (DSE plus charging hood vented to common baghouse for carbon steel)		0.0215	(0.043)	C

(continued)

TABLE 7.5-2. PARTICULATE EMISSION FACTORS FOR IRON AND STEEL MILLS[a] (continued)

Source	Units	Emissions		Emission Factor Rating
Open hearth furnaces				
Melting and refining	kg/Mg (lb/ton) steel			
Uncontrolled		10.55	(21.1)	A
Controlled by ESP		0.14	(0.28)	A
Roof monitor emissions		0.084	(0.168)	C
Teeming				
Leaded steel	kg/Mg (lb/ton) steel			
Uncontrolled (as measured at the source)		0.405	(0.81)	A
Controlled by side draft hood vented to baghouse		0.0019	(0.0038)	A
Unleaded steel				
Uncontrolled (as measured at the source)		0.035	(0.07)	A
Controlled by side draft hood vented to baghouse		0.0008	(0.0016)	A
Machine scarfing				
Uncontrolled	kg/Mg (lb/ton) metal through scarfer	0.05	(0.1)	B
Controlled by ESP		0.0115	(0.023)	A
Miscellaneous combustion sources[b]				
Boilers, soaking pits and slab reheat furnaces	kg/10^9 J (lb/10^6 BTU)			
Blast furnace gas		0.035	(0.035)	D
Coke oven gas		0.0052	(0.012)	D

[a] Reference 2. ESP = electrostatic precipitator. DSE = direct shell evacuation.
[b] For fuels such as coal, fuel oil and natural gas, use the emission factors presented in Chapter 1 of this document. The factor rating for these fuels in boilers is A, and in soaking pits and slab reheat furnaces is D.

TABLE 7.5-3. UNCONTROLLED CARBON MONOXIDE EMISSION FACTORS FOR IRON AND STEEL MILLS[a]

EMISSION FACTOR RATING: C

Source	kg/Mg	lb/ton
Sintering windbox[b]	22	44
Basic oxygen furnace	69	138
Electric arc furnace	9	18

[a] Reference 5.
[b] Expressed as units of emissions per unit of finished sinter.

References for Section 7.5

1. H. E. McGannon, ed., The Making, Shaping and Treating of Steel, U. S. Steel Corporation, Pittsburgh, PA, 1971.

2. T. A. Cuscino, Jr., Particulate Emission Factors Applicable to the Iron and Steel Industry, EPA-450/4-79-029, U. S. Environmental Protection Agency, Research Triangle Park, NC, September 1979.

3. R. Bohn, et al., Fugitive Emissions from Integrated Iron and Steel Plants, EPA-600/2-78-050, U. S. Environmental Protection Agency, Research Triangle Park, NC, March 1978.

4. C. Cowherd, Jr., et al., Iron and Steel Plant Open Source Fugitive Emission Evaluation, EPA-600/2-79-103, U. S. Environmental Protection Agency, Research Triangle Park, NC, May 1979.

5. Control Techniques for Carbon Monoxide Emissions from Stationary Sources, AP-65, U. S. Department of Health, Education and Welfare, Washington, DC, March 1970.

ILLINOIS POLLUTION CONTROL BOARD
May 2, 2013

UNITED STATES STEEL CORPORATION, a Delaware corporation	)	
Petitioner,	)	
v.	)	PCB 13-53 (CAAPP Permit Appeal - Air)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent.	)	

ORDER OF THE BOARD (by J.A. Burke):

On April 8, 2013, United States Steel Corporation (U.S. Steel) timely filed a petition asking the Board to review a March 4, 2013 determination of the Illinois Environmental Protection Agency (Agency). The Agency's determination concerns U.S. Steel's integrated iron and steel mill at 20th and State Streets, Granite City, Madison County. Also on April 8, 2013, U.S. Steel filed a motion for stay of effectiveness of the contested permit conditions (Mot.). On April 18, 2013, the Board accepted the petition for hearing but reserved ruling on U.S. Steel's motion for stay. For the reasons below, the Board today grants U.S. Steel's motion.

MOTION FOR STAY OF CONTESTED CONDITIONS

U.S. Steel requests a stay of effectiveness of the contested conditions within the revised Clean Air Act Permit Program (CAAPP) permit (App. No. 96030056) issued to U.S. Steel by the Agency on March 4, 2013. Mot. at 1. The contested conditions are:

1) Condition 5.13 – General Procedures for Certain Permit Limits on Emissions;

2) Condition 7.1.6(b)(i)-(iv) – Emission Factors for Material Handling and Processing Operations;

3) Condition 7.4.6(b)-(f) – Emission Factors for Blast Furnace Activities;

4) Condition 7.5.6(b) – Annual Nitrogen Oxides (NO_x) and Volatile Organic Material (VOM) Emission Limits for the Basic Oxygen Furnace (BOF) Shop;

5) Condition 7.5.6(c)-(g) – Emission Factors for BOF Shop Activities, NO_x and VOM Maximum Emission for the BOF Electrostatic Precipitator Stack, and failure to include a note regarding a compliance schedule;

6) Condition 7.5.13 – Compliance Schedule and Current Enforcement Status: Failure to include a compliance schedule for NO_x and VOM emissions from the BOF Shop; and

7) Condition 7.6.6(a)-(e) – Emission Factors for Continuous Casting Activities.

Mot. at 1-2.

U.S. Steel cites Section 40.2(f) of the Act, which states in part that, "[i]f requested by the applicant, the Board shall stay the effectiveness of all the contested conditions of a CAAPP permit." Mot. at 2. U.S. Steel argues that the stay is necessary "to prevent irreparable harm to U.S. Steel and to protect U.S. Steel's clearly ascertainable right to appeal permit conditions." *Id.* at 3.

DISCUSSION

On April 18, 2013, the Board reserved ruling on U.S. Steel's motion for stay to allow the Agency's 14-day response time to run. *See* 35 Ill. Adm. Code 101.500(d). To date, the Agency has not filed a response. The Agency is therefore deemed to have waived any objection to granting the motion. 35 Ill. Adm. Code 101.500(d).

Section 40.2(f) of the Act makes clear that contested conditions of a CAAPP permit shall be stayed at the request of the applicant. 415 ILCS 5/40.2(f) (2010); *see also* CenterPoint Energy – Mississippi River Transmission, LLC v. IEPA, PCB 12-14, slip op. at 3 (Nov. 17, 2011). "If the Board stays any, but not all, conditions, then the applicant shall continue to operate in accordance with any related terms and conditions of any other applicable permits until final Board action in the review process." 415 ILCS 5/40.2(f) (2010). The Board grants U.S. Steel's motion for stay of the contested conditions set forth above. This partial stay shall remain in effect until the Board takes final action in this matter or if the Board orders otherwise.

IT IS SO ORDERED.

Chairman Holbrook abstained.

I, John T. Therriault, Assistant Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above order on May 2, 2013 by a vote of 4-0.

John T. Therriault

John T. Therriault, Assistant Clerk
Illinois Pollution Control Board

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

UNITED STATES STEEL CORPORATION, a Delaware corporation,	)	
Petitioner,	)	
v.	)	PCB 2013-____ (CAAPP Permit Appeal)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent.	)	

NOTICE OF FILING

TO: Mr. John Therriault
Assistant Clerk of the Board
Illinois Pollution Control Board
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601
(VIA ELECTRONIC MAIL)

(SEE PERSONS ON ATTACHED SERVICE LIST)

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Illinois Pollution Control Board a copy of United States Steel Corporation's **ENTRY OF APPEARANCE OF KATHERINE D. HODGE, ENTRY OF APPEARANCE OF MONICA T. RIOS, PETITION FOR REVIEW,** and **MOTION FOR STAY OF EFFECTIVENESS OF CONTESTED CONDITIONS,** a copy of which is hereby served upon you.

Respectfully submitted,

UNITED STATES STEEL CORPORATION,
Petitioner,

Dated: April 8, 2013

By:/s/ Monica T. Rios
Monica T. Rios

Katherine D. Hodge
Monica T. Rios
HODGE DWYER & DRIVER
3150 Roland Avenue
Post Office Box 5776
Springfield, Illinois 62705-5776
(217) 523-4900

CERTIFICATE OF SERVICE

I, Monica T. Rios, the undersigned, certify that I have served the attached ENTRY OF APPEARANCE OF KATHERINE D. HODGE, ENTRY OF APPEARANCE OF MONICA T. RIOS, PETITION FOR REVIEW, and MOTION FOR STAY OF EFFECTIVENESS OF CONTESTED CONDITIONS upon:

Mr. John Therriault
Assistant Clerk of the Board
Illinois Pollution Control Board
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601

via electronic mail on April 8, 2013; and upon:

Division of Legal Counsel
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

by depositing said documents in the United States Mail, postage prepaid, in Springfield, Illinois, on April 8, 2013.

By: /s/ Monica T. Rios
Monica T. Rios

USSC:003/Fil/NOF-COS –EOAs-Mtn To Stay-Petition for Review

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

UNITED STATES STEEL CORPORATION, a Delaware corporation,	)	
Petitioner,	)	
v.	)	PCB No. ___-____ (CAAPP Permit Appeal)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent.	)	

ENTRY OF APPEARANCE OF KATHERINE D. HODGE

NOW COMES Katherine D. Hodge, of the law firm of HODGE DWYER & DRIVER, and hereby enters her appearance on behalf of Petitioner, UNITED STATES STEEL CORPORATION, in the above-referenced matter.

Respectfully submitted,

UNITED STATES STEEL CORPORATION,
Petitioner,

By:/s/ Katherine D. Hodge
One of Its Attorneys

Dated: April 8, 2013

Katherine D. Hodge
HODGE DWYER & DRIVER
3150 Roland Avenue
Post Office Box 5776
Springfield, Illinois 62705-5776
(217) 523-4900

USSC:003/Fil/EOA KDH

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

UNITED STATES STEEL CORPORATION, a Delaware corporation,	)	
Petitioner,	)	
v.	)	PCB No. ___-____ (CAAPP Permit Appeal)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent.	)	

ENTRY OF APPEARANCE OF MONICA T. RIOS

NOW COMES Monica T. Rios, of the law firm of HODGE DWYER & DRIVER, and hereby enters her appearance on behalf of Petitioner, UNITED STATES STEEL CORPORATION, in the above-referenced matter.

Respectfully submitted,

UNITED STATES STEEL CORPORATION,
Petitioner,

By:/s/ Monica T. Rios
Monica T. Rios

Dated: April 8, 2013

Monica T. Rios
HODGE DWYER & DRIVER
3150 Roland Avenue
Post Office Box 5776
Springfield, Illinois 62705-5776
(217) 523-4900

USSC:003/Fil/EOA MTR

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

UNITED STATES STEEL CORPORATION, a Delaware corporation,	)	
Petitioner,	)	
v.	)	PCB 2013-____ (CAAPP Permit Appeal)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent.	)	

PETITION FOR REVIEW

NOW COMES Petitioner, UNITED STATES STEEL CORPORATION (hereinafter "U.S. Steel"), by and through its attorneys, HODGE DWYER & DRIVER, pursuant to Section 40.2 of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/40.2, and 35 Ill. Admin. Code Part 105.Subpart C, and petitions the Illinois Pollution Control Board ("Board") for review of the Clean Air Act Permit Program ("CAAPP") permit issued to U.S. Steel by the Illinois Environmental Protection Agency ("Illinois EPA") on March 4, 2013, pursuant to Section 39.5 of the Act ("2013 CAAPP Permit"). In support of this Petition, U.S. Steel states as follows:

I. BACKGROUND

1. U.S. Steel owns and operates an integrated iron and steel mill in Granite City, Illinois (the "Facility"), which is classified as a "major source" for purposes of Title V of the Clean Air Act ("CAA") and Section 39.5 of the Act.

2. Principle operations at the Facility include, but are not limited to: 1) Handling and Processing of Bulk Materials; 2) Coke Production (Coke Ovens and

Coke Byproduct Plant); 3) Iron Production (Blast Furnaces); 4) Steel Production (Basic Oxygen Process ("BOP")/Basic Oxygen Furnace ("BOF") Shop); 5) Steel Finishing; and 6) Boilers. In addition, roadways at the Facility and nearby public roadways serving the Facility are subject to fugitive dust requirements.

3. U.S. Steel herein petitions the Board for review of the 2013 CAAPP Permit, attached hereto as Exhibit A, based on two issues: 1) the inclusion of Condition 5.13 in the 2013 CAAPP Permit and explicit determination by Illinois EPA that "emission factors" incorporated in the 2013 CAAPP Permit from the Construction Permit/Prevention of Significant Deterioration ("PSD") Approval No. 95010001 ("PSD Permit") issued to National Steel, the prior owner and operator of the Facility, by Illinois EPA on January 25, 1996 (and subsequently revised and reissued on several occasions) are, in fact, enforceable "emission limits;" and 2) the failure of Illinois EPA to include a compliance schedule in the 2013 CAAPP Permit related to the Violation Notice ("VN") issued to U.S. Steel by Illinois EPA on November 30, 2012.

4. U.S. Steel is contesting the following conditions of the 2013 CAAPP Permit:

- Condition 5.13 – General Procedures for Certain Permit Limits on Emissions;
- Condition 7.1.6(b)(i)-(iv) – Emission Factors for Material Handling and Processing Operations;
- Condition 7.4.6(b)-(f) – Emission Factors for Blast Furnace Activities;
- Condition 7.5.6(b) – Annual NOx and VOM Emission Limits for the BOF Shop;

- Condition 7.5.6(c)-(g) – Emission Factors for BOF Shop Activities, NOx and VOM Annual Maximum Emissions for the BOF ESP Stack, and failure to include a note regarding a compliance schedule (See Condition 7.5.13);

- Condition 7.5.13 – Compliance Schedule and Current Enforcement Status: Failure to include a compliance schedule for NOx and VOM emissions from the BOF Shop; and

- Condition 7.6.6(a)-(e) – Emission Factors for Continuous Casting Activities.

A table describing the contested conditions in more detail is attached hereto as Exhibit B.

5. For the reasons stated herein, Illinois EPA's final action with regard to the issues concerning the 2013 CAAPP Permit, as set forth above, was arbitrary, capricious and not supported by the Act or Board regulations. Accordingly, U.S. Steel seeks review of the 2013 CAAPP Permit as provided by Section 40.2 of the Act and 35 Ill. Admin. Code Part 105 Subpart C of the Board's regulations as to those issues. The filing of this Petition is timely pursuant to Section 40.2(a) of the Act and Section 105.302(e) of the Board's regulations because it was filed with the Board within 35 days after issuance of the 2013 CAAPP Permit.

6. U.S. Steel is also filing contemporaneously herewith a Motion to Stay the Contested Conditions of the 2013 CAAPP Permit, in accordance with Section 40.2(f) of the Act, and is requesting a stay of contested conditions of the 2013 CAAPP Permit during the pendency of the review process.

II. PROCEDURAL HISTORY

7. On May 2, 2011, Illinois EPA issued a revised CAAPP Permit ("2011 CAAPP Permit")[1] to U.S. Steel in response to an order[2] from the United States Environmental Protection Agency ("USEPA") granting in part and denying in part a petition[3] filed by the American Bottom Conservancy requesting that USEPA object to the issuance of the September 3, 2009 CAAPP Permit issued to U.S. Steel. The Facility currently operates under the terms and conditions of the 2011 CAAPP Permit.[4]

8. On August 16, 2011, ABC filed a Petition to Object ("Petition to Object")[5] with USEPA, requesting that USEPA object to the 2011 CAAPP Permit. The Petition to Object alleged that the 2011 CAAPP Permit, among other things, lacked adequate periodic monitoring and failed to appropriately address excess emissions associated with startup, breakdown and malfunctions.

[1] The 2011 CAAPP Permit was administratively amended on October 3, 2011 and May 3, 2012 to reflect corrections of typographical errors in several conditions.

[2] Order Responding to Petitioner's Request that the Administrator Object to Issuance of State Operating Permit, *In the Matter of: United States Steel Corporation – Granite City Works CAAPP No. 96030056 Proposed by the Illinois Environmental Protection Agency,* Petition No. V-2009-03 (Jan. 31, 2011).

[3] American Bottom Conservancy's Petition to Object to Title V Permit for United States Steel Corporation – Granite City Works Issued by the Illinois Environmental Protection Agency (Oct. 1, 2009).

[4] As soon as the Board grants a stay of contested conditions in this appeal of the 2013 CAAPP Permit, as required by Section 40.2(f) of the Act, U.S. Steel will operate under the uncontested conditions of the 2013 CAAPP Permit.

[5] Petition Requesting that the Administrator Object to the Issuance of the Revised Title V/CAAPP Operating Permit for the U.S. Steel Granite City Works Facility (Aug. 16, 2011).

9. On December 3, 2012, USEPA took final action on the Petition to Object, granting it in part and denying it in part ("2012 USEPA Order"). [6]

10. In response to the 2012 USEPA Order, on March 4, 2013, Illinois EPA issued the 2013 CAAPP Permit. The issuance of the 2013 CAAPP Permit was preceded by a 10-day comment period in accordance with Section 39.5(9)(g) of the Act. During the comment period, U.S. Steel submitted comments on the Public Notice Draft of the 2013 CAAPP Permit, focusing on Illinois EPA's preliminary decision not to include U.S. Steel's proposed compliance schedule in the planned revisions to the 2013 CAAPP Permit. U.S. Steel's comments are attached hereto as Exhibit C.

11. Upon issuance of the 2013 CAAPP Permit, Illinois EPA also issued its "Response to Comments on the Planned Issuance of a Revised Clean Air Act Permit Program (CAAPP) Permit to United States Steel Corporation, Granite City Works, Granite City, Illinois" ("2013 Response to Comments"), attached hereto as Exhibit D.

III. EMISSION FACTORS IN THE 2013 CAAPP PERMIT ARE NOT EMISSION LIMITS

A. General Background

12. CAAPP permits must address emission limits established in preconstruction permits issued under regulations approved by USEPA in accordance with Title I of the CAA as such limits are considered "applicable requirements." Section 39.5(1) of the Act defines "applicable requirements" as "all applicable Clean Air Act requirements and any other standard, limitation, or other requirement contained in this

[6] Order Granting In Part and Denying In Part Petition for Objection to Permit, *In the Matter of: United States Steel Corporation – Granite City Works CAAPP No. 96030056 Proposed by the Illinois Environmental Protection Agency,* Petition No. V-2011-2 (Dec. 3, 2012).

Act or regulations promulgated under this Act as applicable to sources of air contaminants (including requirements that have future effective compliance dates)." 415 ILCS 5/39.5(1).

13. Further, Section 39.5(1) of the Act defines "applicable Clean Air Act requirement," in relevant part, as:

> all of the following as they apply to emissions units in a source (including regulations that have been promulgated or approved by USEPA pursuant to the Clean Air Act which directly impose requirements upon a source and other such federal requirements which have been adopted by the Board. These may include requirements and regulations which have future effective compliance dates. Requirements and regulations will be exempt if USEPA determines that such requirements need not be contained in a Title V permit):
>
> * * *
>
> (2)(i) Any term or condition of any preconstruction permits issued pursuant to regulations approved or promulgated by USEPA under Title I of the Clean Air Act, including Part C or D of the Clean Air Act.
>
> * * *

415 ILCS 5/39.5(1).

14. Preconstruction permits, commonly referred to in Illinois as construction permits, derive from the New Source Review ("NSR") permit programs required by Title I of the CAA. These programs include the two major NSR permit programs: 1) the PSD program, and the nonattainment NSR program. These programs also encompass state construction permit programs for projects that are not major.

B. <u>1996 PSD Permit</u>

15. To implement the major NSR permit programs, Illinois' construction permits must commonly include annual limits for different pollutants emitted by the new

or modified emission units that comprise the proposed projects addressed by the permits, defining their permitted emissions. This is the case for the PSD Permit.

16. The PSD Permit was initially issued on January 25, 1996[7] to National Steel, the former owner and operator of the Granite City Works. The PSD Permit addressed an expansion project that included increases in the production of iron from the two existing blast furnaces at the steel mill and an increase in the production of steel from the two existing BOP furnaces.

17. Consistent with the PSD program and regulations in place in 1996, the PSD Permit established maximum production rates for the Blast Furnace Operations, BOF Shop, Continuous Casting Operations, as well as maximum annual emission limits for the related emission units and activities. Annual emission limits are located in Table 5 of the PSD Permit.

18. The PSD Permit also included emission factors, by pollutant, for major processes and activities. Emission factors and annual maximum emissions for certain activities are located in Tables 1 – 4 of the PSD Permit.

C. Emission Factors Are Not Emission Limits

19. The 2013 CAAPP Permit includes a new Condition 5.13 with new procedures for "emission limits" in which Illinois EPA details that both the emission factors and maximum emissions are "emission limits." Condition 5.13 states, in relevant part:

[7] After the issuance of the PSD Permit in 1996, the permit was subsequently revised several times (on July 23, 1996; October 18, 1996; April 2, 1997; June 6, 1997; January 5, 1999; June 25, 2002; and December 17, 2012). The emission factors established in the PSD Permit in 1996 have remained the same throughout the subsequent revisions to the PSD Permit.

> Pursuant to Sections 39.5(7)(b) and (p)(v) of the Act, these procedures are applicable for the emission limits in Conditions 7.1.6(b)(i) through (iv), 7.4.6(b) through (f), 7.5.6(c) through (g) and 7.6.6(a) through (e), which address the rates of emissions or "emission factors" (commonly in pounds/ton) and the annual emissions or "maximum emissions" (in tons/year) of certain emission units . . .

20. Illinois EPA, in the 2013 Response to Comments, explained in regards to new Condition 5.13 that emission factors in the subject conditions are emission limits. Illinois EPA stated:

> The initial discussion in new Condition 5.13, the General Procedures for Certain Permit Limits on Emissions, now explicitly indicates that the "emission factors" contained in the subject conditions are emission limits. This change has been made because of the continuing confusion displayed in comments about whether the emission factors in those conditions were limits or fixed values of emissions that US Steel could use to address compliance with the limits in the subject conditions for annual emissions. This change is consistent with the 2012 order as it stated that the Illinois EPA should consider clarifying in the Revised Permit that the emission factors in the subject conditions are, in fact, emission limits. *See*, 2012 Order, pages 8-9.

2013 Response to Comments at 48. (Emphasis added.)

21. The 2013 CAAPP Permit, for the first time, explicitly states in Condition 5.13 Illinois EPA's interpretation that the emission factors in the contested conditions are emission limits. Prior CAAPP Permits made no such determination, explicit or otherwise.

22. Further, Illinois EPA had previously never alleged a violation of an "emission factor limit" until it issued the Violation Notice on November 30, 2012, in

which it asserted that the emission factors were emission limits.[8]

23. While Illinois EPA asserts that new Condition 5.13 was added to the 2013 CAAPP Permit to clarify the purpose of the emission factors, by adding new Condition 5.13[9] to the 2013 CAAPP Permit, Illinois EPA fundamentally changed the contested conditions at Conditions 7.1.6(b)(i)-(iv), 7.4.6(b)-(f), 7.5.6(c)-(g), and 7.6.6(a)-(e), by stating that the emission factors, originally established in the PSD Permit, are emission limits. The assertion that the new language is merely a "clarification" does not comport with Illinois EPA's own language that the "change" in the permit is to "now explicitly" indicate that the emission factors are emission limits.

24. In addition, some of the emission factors that Illinois EPA refers to as limits by way of Condition 5.13 were derived from AP-42, Compilation of Air Pollutant Emission Factors. In AP-42, USEPA clearly states that AP-42 emission factors are "generally assumed to be representative of long-term averages for all facilities in the source category."[10] In AP-42, USEPA also states that "[e]mission factors in AP-42 are neither EPA-recommended emission limits . . . nor standards . . ."[11] USEPA clarifies:

---

[8] Although Illinois EPA noted in the 2011 Response to Comments that certain emission factors from the PSD Permit should be considered limits, Illinois EPA did not explicitly indicate in the 2011 CAAPP Permit that the emission factors were emission limits. It was not until the issuance of the 2013 CAAPP Permit that Illinois EPA stated in the permit itself that emission factors are emission limits.

[9] Condition 5.13 states that certain emission factors are emission limits. However, it establishes a procedure by which U.S. Steel must review and update emission factors that it is using, which indicates that the emission factors are factors and not emission limits, since a permittee is not allowed to revise its own limits.

[10] Emission Factors & AP-42, Compilation of Air Pollutant Emission Factors, available at www.epa.gov/ttnchie1/ap42 (April 3, 2013).

[11] Compilation of Air Pollutant emission Factors Volume I: Stationary Point and Area Sources, Fifth Edition at 2, USEPA (Jan. 1995). (Emphasis in the original.)

> [u]se of emission factors as source-specific permit limits and/or as emission regulation compliance determinations is not recommended by EPA. Because emission factors essentially represent an average of a range of emission rates, approximately half of the subject sources will have emission rates greater than the emission factor and the other half will have emission rates less than the factor. As such, a permit limit using an AP-42 emission factor would result in half of the sources being in noncompliance.[12]

In short, USEPA clearly articulates that AP-42 emission factors are indeed emission estimates. This is consistent with how Illinois EPA determined the annual emission limits – by using the AP-42 emission factor as the average.

25. The use of emission factors as limits is generally rejected by USEPA. In an order responding to a petition to object to a Title V permit, USEPA plainly states:

> [a]n AP-42 emission factor is a value that roughly correlates the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant. The use of these emission factors may be appropriate in some permitting applications, such as establishing operating permit fees. However, EPA has stated that AP-42 factors do not yield accurate emissions estimates for individual sources. *See In the Matter of Cargill, Inc.*, Petition IV-2003-7 (Amended Order) at 7, n.3 (Oct. 19, 2004). Because emission factors essentially represent an average of a range of facilities and of emission rates, they are not necessarily indicative of the emissions from a given source at all times; with a few exceptions, use of these factors to develop source-specific permit limits or to determine compliance with permit requirements is generally not recommended.

Order Denying in Part and Granting in Part A Petition for Objection to Permit, *In the Matter of Chevron Products Company, Richmond, California Facility,* Petition No. IX-2004-08 at 23-24 (March 2005). In *Chevron*, USEPA also explains that a single emission factor that was developed to represent *long-term average emissions* is not necessarily predictive of determining compliance at any *specific* time. *Id.*

[12] *Id.*

26. Some of the emission factors from the 1996 PSD Permit that are incorporated into the 2013 CAAPP Permit have low emission factor ratings.[13] For example, the Hot Metal Desulfurization and Hot Metal Transfer emission factor for VOM at Condition 7.5.6(e) is derived from the AIRS compilation of emission factors, which are rated as "E" quality factors based on the AP-42 rating scale.[14] Since no data were available at the time of the PSD permit application and issuance, the emission factor for VOM was based on an emission factor with a rating of "poor," which means that the factor was based on limited data. It is unreasonable now, more than 15 years later, to claim that the use of an "E" rated emission factor in a permit application and referred to in the issued permit is intended to be a short term emission limit. Since no data were available at the time of permit application preparation and issuance, it was, at the time, reasonable to use the emission factor to estimate annual emissions.

27. Also, some emission factors are derived from historical stack tests conducted many years ago, and accordingly, outdated stack testing data should not be considered emission limits because the emission factors established by the tests are averages. For example, in the case of the iron spout baghouse, the SO2 emission factor (0.0073 lb/ton) at Condition 7.4.6(f) is based on an average of three one-hour test runs, at which time, several parameters were tested to develop the emission factor. The SO2 emission factor is an average, where two of the test runs were above the 0.0073 lb/ton

[13] Emission factor ratings in AP-42 provide indications of the robustness, or appropriateness, of emission factors ***for estimating average emissions*** for a source activity.

[14] AP-42 rates emission factors using letters: A (Excellent), B (Above Average), C (Average), D (Below Average), and E (Poor).

SO2 factor, which was ultimately included in the PSD Permit. Illinois EPA used the SO2 emission factor established during the stack testing to determine anticipated average emissions, which were then used as the basis for annual emission limits. Moreover, even in cases where stack test data are used to establish emission limits, it is usual and customary (even in 1996) to apply an operations contingency or "safety" factor to account for expected variability in operations and process parameters, such as temperature. The emission factors established by stack testing were intended to be only factors and not limits, as Illinois EPA has interpreted, because the factors are based on an average developed during multiple test runs.

28. Accordingly, Illinois EPA's inclusion of new Condition 5.13 and new determination in referring to the emission factors as emission limits in Condition 7.1.6(b)(i)-(iv), Condition 7.4.6(b)-(f), Condition 7.5.6(c)-(g), and Condition 7.6.6(a)-(e) as included in the 2013 CAAPP Permit was arbitrary, capricious and not supported by the Act or Board regulations.

IV. A COMPLIANCE SCHEDULE SHOULD BE INCLUDED IN THE 2013 CAAPP PERMIT

29. On November 30, 2012, Illinois EPA issued VN No. A-2012-00169, attached here to as Exhibit E, to U.S. Steel alleging violations of the NOx and VOM annual limits for the BOF and associated electrostatic precipitator ("ESP") in Condition 7.5.6(c) of U.S. Steel's 2011 CAAPP Permit. Illinois EPA also alleged a violation of the NOx and VOM emission factors stating that the Facility "caused or

allowed the emissions of NOx and VOM in excess of the emission limits of 0.0389 lb/ton and 0.006 lb/ton, respectively." *See* Exhibit E.

30. On January 30, 2012, U.S. Steel submitted to Illinois EPA a detailed compliance plan/schedule for future stack testing and permitting in order to establish appropriate NOx and VOM annual emission limits for the BOF and ESP. U.S. Steel requested that the compliance plan/schedule be incorporated into the 2013 CAAPP Permit. U.S. Steel's proposed compliance plan/schedule is attached hereto as Exhibit F.

31. As noted above, U.S. Steel submitted comments (Exhibit C) during the public comment period on the Public Notice Draft of the 2013 CAAPP Permit. Although Illinois EPA had made the preliminary decision not to include U.S. Steel's proposed compliance schedule in the planned revisions to the 2013 CAAPP Permit, U.S. Steel explained in its comments that the Act and the regulations promulgated thereunder require that a compliance schedule be included in the 2013 CAAPP Permit, since stack testing demonstrated that U.S. Steel cannot comply with the annual maximum emission limits at Condition 7.5.6(c). *See* Exhibit C for U.S. Steel's discussion detailing why a compliance schedule should be included in the 2013 CAAPP Permit.

32. In addition to the Act's requirements for compliance schedules, Section 504(a) of the CAA, 42 U.S.C. § 7661c(a), requires compliance schedules in CAAPP permits. Section 504(a) states:

> Each permit issued under this subchapter shall include enforceable emission limitations and standards, a schedule of compliance, a requirement that the permittee submit to the permitting authority, no less often than every 6 months, the results of any required monitoring , and such other conditions as are necessary to assure compliance with

> applicable requirements of this chapter, including the requirements of the applicable implementation plan.

42 U.S.C. § 7661c(a). (Emphasis added.)

33. Based on the above provisions, CAAPP permits are required to include compliance schedules for emission units that are not in compliance with applicable requirements of the permit at the time of issuance. Illinois EPA stated that it is too soon to determine non-compliance based on the issuance of the VN to U.S. Steel because the enforcement process is only in the beginning stages. Illinois EPA also noted that other considerations and information needs to be taken into account prior to revising the CAAPP Permit to include a compliance schedule. However, U.S. Steel's January 30, 2013 letter requesting a compliance schedule clearly explained that data from the last two stack tests demonstrated "that the BOF ESP cannot maintain compliance with the current emission limits for NOx and VOM." *See* Exhibit F.

34. Thus, U.S. Steel concluded that, based on stack test data, that it cannot comply with certain permit requirements that were expected to be, and in fact were, included in the 2013 CAAPP Permit. Accordingly, in its February 14, 2013 comments on the draft 2013 CAAPP Permit, U.S. Steel requested that a compliance schedule be included in the 2013 CAAPP Permit and requested Illinois EPA reconsider its position on the issue. Furthermore, U.S. Steel requested that Illinois EPA include the requested compliance schedule at a new Condition 7.5.13 in the 2013 CAAPP Permit, as well as add a Note (*) after existing Condition 7.5.6(c) as follows:

> * These limits have been addressed by the compliance schedule established for compliance with these factors and limits. (See Condition 7.5.13).

Exhibit C at 3.

35. Because a compliance schedule was not included at Condition 7.5.13 and the note was not included at Condition 7.5.6(c), U.S. Steel is not only contesting the emission factors as emission limits in Condition 7.5.6(c), but it is also contesting the NOx and VOM annual maximum emissions at Condition 7.5.6(c), as U.S. Steel has demonstrated that it cannot meet the 69.63 tpy NOx and 10.74 tpy VOM annual limits for the BOF ESP Stack. The corresponding annual emission limits for NOx and VOM for BOF Shop emissions at Condition 7.5.6(b) are based on the BOF ESP Stack maximum annual emissions at Condition 7.5.6(c), and accordingly, the annual emission limits at Condition 7.5.6(b) are also being contested since U.S. has concluded, based on stack testing, that it cannot comply with the annual NOx and VOM emission limits for the BOF Shop.

WHEREFORE, Petitioner, UNITED STATES STEEL CORPORATION petitions the Illinois Pollution Control Board for a hearing on the Illinois EPA's final action on the 2013 CAAPP Permit with respect to the permit conditions and issues referenced herein, and a determination that the Illinois EPA's action was arbitrary, capricious and not supported by the Act or Board regulations. In addition, as set forth in the accompanying Motion, U.S. Steel requests that the Board stay the contested conditions of the 2013 CAAPP Permit during the pendency of the review process. U.S. Steel reserves the right to amend this Petition as necessary in order to raise newly discovered issues arising from

the 2013 CAAPP Permit and/or to provide additional specificity regarding the conditions of the 2013 CAAPP Permit, if required by the Board.

Respectfully submitted,

UNITED STATES STEEL CORPORATION,
Petitioner,

Dated: April 8, 2013

By: Monica T. Rios
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TITLE V - CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT
REVISED

PERMITTEE:

U. S. Steel Corporation
Granite City Works
Attn: Bryan Kresak
20th and State Streets
Granite City, Illinois 62040

I.D. No.: 119813AAI
Application No.: 96030056

Date Originally Received: March 6, 1996
Date Originally Issued: September 3, 2009
Date Revised Permit Issued: March 4, 2013
Expiration Date[1]: September 3, 2014

Operation of: Integrated Steel Mill
Source Location: 20th and State Streets, Granite City
Responsible Official: Richard E. Veitch, General Manager

This permit is hereby granted to the above-designated Permittee to OPERATE an Integrated Steel Mill Plant, pursuant to the above referenced permit application. This permit is subject to the conditions contained herein.

This permit was revised on March 4, 2013, in accordance with Sections 39.5(9)(e) through (g) of the Environmental Protection Act, pursuant to an order from Lisa P. Jackson, Administrator of the USEPA, *In the Matter of United States Steel Corporation - Granite City Works*, Petition Number V-2011-2 (December 3, 2012), which order was received by the Illinois EPA on December 4, 2012.

If you have any questions concerning this permit, please contact Anatoly Belogorsky or Michael Reed at 217/785-1705.

Edwin C. Bakowski, P.E.
Manager, Permit Section
Division of Air Pollution Control

ECB:MR:psj

cc: Illinois EPA, FOS, Region 3
CES
Lotus Notes

[1] Except as provided in Conditions 1.5 and 8.7 of this permit.

EXHIBIT A

TABLE OF CONTENTS

		Page
1.0	**INTRODUCTION**	4
1.1	Source Identification	
1.2	Owner/Parent Company	
1.3	Operator	
1.4	Source Description	
1.5	Title I Conditions	
2.0	**LIST OF ABBREVIATIONS AND ACRONYMS COMMONLY USED**	6
3.0	**CONDITIONS FOR INSIGNIFICANT ACTIVITIES**	8
3.1	Identification of Insignificant Activities	
3.2	Compliance with Applicable Requirements	
3.3	Addition of Insignificant Activities	
4.0	**SIGNIFICANT EMISSION UNITS AT THIS SOURCE**	16
5.0	**OVERALL SOURCE CONDITIONS**	18
5.1	Applicability of Clean Air Act Permit Program (CAAPP)	
5.2	Area Designation	
5.3	Source-Wide Applicable Provisions and Regulations	
5.4	Source-Wide Non-Applicability of Regulations of Concern	
5.5	Source-Wide Control Requirements and Work Practices	
5.6	Source-Wide Production and Emission Limitations	
5.7	Source-Wide Testing Requirements	
5.8	Source-Wide Monitoring Requirements	
5.9	Source-Wide Recordkeeping Requirements	
5.10	Source-Wide Reporting Requirements	
5.11	Source-Wide Operational Flexibility/Anticipated Operating Scenarios	
5.12	Source-Wide Compliance Procedures	
5.13	General Procedures for Certain Permit Limits on Emissions	
5.14	Source-wide State-Only Conditions	
6.0	**CONDITIONS FOR EMISSIONS CONTROL PROGRAMS**	49
7.0	**UNIT SPECIFIC CONDITIONS FOR SPECIFIC EMISSION UNITS**	50
7.1	Material Handling and Processing Operations	
7.2	Coke Production	
7.3	Coke By-Product Recovery Plant and COG Desulfurization System	
7.4	Blast Furnaces	
7.5	Basic Oxygen Processes	
7.6	Continuous Casting	
7.7	Hot Strip Mill Reheat Furnaces	

Page

7.8 Finishing Operations
7.9 Wastewater Treatment Plant
7.10 Boilers
7.11 Internal Combustion Engine
7.12 Gasoline Storage and Dispensing
7.13 Fugitive Dust

8.0 **GENERAL PERMIT CONDITIONS** 323

8.1 Permit Shield
8.2 Applicability of Title IV Requirements
8.3 Emissions Trading Programs
8.4 Operational Flexibility/Anticipated Operating Scenarios
8.5 Testing Procedures
8.6 Reporting Requirements
8.7 Title I Conditions

9.0 **STANDARD PERMIT CONDITIONS** 329

9.1 Effect of Permit
9.2 General Obligations of Permittee
9.3 Obligation to Allow Illinois EPA Surveillance
9.4 Obligation to Comply with Other Requirements
9.5 Liability
9.6 Recordkeeping
9.7 Annual Emissions Report
9.8 Requirements for Compliance Certification
9.9 Certification
9.10 Defense to Enforcement Actions
9.11 Permanent Shutdown
9.12 Reopening and Reissuing Permit for Cause
9.13 Severability Clause
9.14 Permit Expiration and Renewal
9.15 General Authority for the Terms and Conditions of this Permit

10.0 ATTACHMENTS

1 Example Certification by a Responsible Official 1-1
2 Emissions of Particulate Matter from Process Emission Units 2-1
3 Current Emission Factors for Certain Emission Limits 3-1

1.0 SOURCE IDENTIFICATION

1.1 Source

U. S. Steel Corporation
Granite City Works
20th and State Streets
Granite City, Illinois 62040
618/451-3456

I.D. No.: 119813AAI
County: Madison
Standard Industrial Classification: 3312, Integrated Steel Mill

Responsible Official: Richard E. Veitch, General Manager

Delegated Authorities:
Michelle Fields, Division Manager - Coke and Iron Making;
Michael Terry, Division Manager - Steelmaking

1.2 Owner/Parent Company

United States Steel Corporation
600 Grant Street
Pittsburgh, Pennsylvania 15219

1.3 Operator

U. S. Steel Corporation
Granite City Works
20th and State Streets
Granite City, Illinois 62040

Contact Person:
Bryan Kresak, Manager Environmental Control
618/451-3456

1.4 Source Description

Integrated steel manufacturing employing raw material processing/preparation, coke production, iron production, steel production, and steel finishing.

1.5 Title I Conditions

As generally identified below, this CAAPP permit contains certain conditions for emission units at this source that address the applicability of permitting programs for the construction and modification of sources, which programs were established pursuant to Title I of the Clean Air Act (CAA) and regulations thereunder. These programs include 40 CFR 52.21, Prevention of Significant Deterioration (PSD) and 35 IAC Part 203, Major Stationary Sources Construction and Modification (MSSCAM), and are implemented by the Illinois EPA pursuant to Sections 9, 9.1, 39(a) and 39.5(7)(a) of the Illinois Environmental Protection Act (Act). These conditions continue in effect,

notwithstanding the expiration date specified on the first page of this permit, as their authority derives from Titles I and V of the CAA, as well as Titles II and X of the Act. (See also Condition 8.7.)

a. This permit contains "Title I Conditions" that reflect Title I requirements established in permits previously issued for this source, which conditions are specifically designated as "T1".

b. This permit contains Title I conditions that are newly established in this CAAPP permit, which conditions are specifically designated as "T1N".

2.0 LIST OF ABBREVIATIONS AND ACRONYMS COMMONLY USED

ACMA	Alternative Compliance Market Account
Act	Illinois Environmental Protection Act [415 ILCS 5/1 et seq.]
AP-42	Compilation of Air Pollutant Emission Factors, Volume 1, Stationary Point and Other Sources (and Supplements A through F), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711
ATU	Allotment Trading Unit
BACT	Best Available Control Technology
BAT	Best Available Technology
BFG	Blast Furnace Gas
BOF	Basic Oxygen Furnace
BOPF	Basic Oxygen Process Furnace
BTX	Benzene, toluene and xylene
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COG	Coke Oven Gas
COG-DS	Coke Oven Gas Desulfurization System
COMS	Continuous Opacity Monitoring System
CPMS	Continuous Parameters Monitoring System
dscf	Dry standard cubic feet
ERMS	Emissions Reduction Market System
ESP	Electro Static Precipitator
°F	Fahrenheit
FESOP	Federally Enforceable State Operating Permit
GHG	Greenhouse Gases
gr	grains
HAP	Hazardous Air Pollutant
HCL	Hydrogen Chloride
H_2S	Hydrogen Sulfate
IAC	Illinois Administrative Code
I.D. No.	Identification Number of Source, assigned by Illinois EPA
ILCS	Illinois Compiled Statutes
Illinois EPA	Illinois Environmental Protection Agency
LAER	Lowest Achievable Emission Rate
LMF	Ladle Metallurgy Furnace
MACT	Maximum Achievable Control Technology
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM_{10}	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods

$PM_{2.5}$	Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 microns as measured by applicable test or monitoring methods
ppm	Parts per million
PSD	Prevention of Significant Deterioration
RMP	Risk Management Plan
scf	Standard cubic feet
SO_2	Sulfur Dioxide
SSM	Startup, Shutdown and Malfunction
T1	Title I - identifies Title I conditions that have been carried over from an existing permit
T1N	Title I New - identifies Title I conditions that are being established in this permit
T1R	Title I Revised - identifies Title I conditions that have been carried over from an existing permit and subsequently revised in this permit
USEPA	United States Environmental Protection Agency
VHAP	Volatile Hazardous Air Pollutant
VOM	Volatile Organic Material

3.0 CONDITIONS FOR INSIGNIFICANT ACTIVITIES

3.1 Identification of Insignificant Activities

The following activities at the source constitute insignificant activities as specified in 35 IAC 201.210:

3.1.1 Activities determined by the Illinois EPA to be insignificant activities, pursuant to 35 IAC 201.210(a)(1) and 201.211, as follows:

a. Material Handling and Processing Operations

N/A

b. Coke Production

N/A

c. Coke Oven Gas By-Products Recovery Plant

Ammonium Sulfate Handling

d. Blast Furnaces

N/A

e. Basic Oxygen Furnaces

N/A

f. Continuous Casting

Tanks #543, #544, #545, #555

g. Finishing Operations

Scale Pits
#6 Zinc Pot (Backup)
#7 and #8 Zinc Pots
Storage Tanks ##306-310, #403, #427, #800, #815

h. Wastewater Treatment

N/A

i. Boiler Houses

N/A

3.1.2 Activities that are insignificant activities based upon maximum emissions, pursuant to 35 IAC 201.210(a)(2) or (a)(3), as follows:

a. Material Handling Operations

N/A

b. Coke Production

N/A

c. Coke Oven Gas By-Products Recovery Plant

Storage Tanks #116, #117, #118, #120

d. Blast Furnaces

Torpedo Car Dekishing

e. Basic Oxygen Furnaces

Lime/Magnesium Handling and Storage Unit

f. Continuous Casting

N/A

g. Finishing Operations

72" Line and Cold Mill

h. Wastewater Treatment

N/A

i. Boiler Houses

N/A

3.1.3 Activities that are insignificant activities based upon their type or character, pursuant to 35 IAC 201.210(a)(4) through (18), as follows:

a. Material Handling Operations

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

b. Coke Production

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

c. Coke Oven Gas By-Products Recovery Plant

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

d. Blast Furnaces

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat

input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

e. Basic Oxygen Furnaces

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

f. Continuous Casting

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

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Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

g. Finishing Operations

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

h. Wastewater Treatment

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

i. Boiler Houses

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Gas turbines and stationary reciprocating internal combustion engines of less than 112 kW (150 horsepower) power output [35 IAC 201.210(a)(15)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

3.1.4 Activities that are considered insignificant activities pursuant to 35 IAC 201.210(b). Note: These activities are not required to be individually listed.

3.2 Compliance with Applicable Requirements

Insignificant activities are subject to applicable requirements notwithstanding status as insignificant activities. In particular, in addition to regulations of general applicability, such as 35 IAC 212.301 and 212.123 (Condition 5.3.2), the Permittee shall comply with the following requirements, as applicable:

3.2.1 For each particulate matter process emission unit, the Permittee shall comply with the applicable particulate matter emission limit of 35 IAC 212.321 or 212.322 (see Attachment 2) and 35 IAC Part 266. For example, the particulate matter emissions from a process emission unit shall not exceed 0.55 pounds per hour if the emission unit's process weight rate is 100 pounds per hour or less, pursuant to 35 IAC 266.110.

3.2.2 For each organic material emission unit that uses organic material, e.g., a mixer or printing line, the Permittee shall comply with the applicable VOM emission limit of 35 IAC 219.301, which requires that organic material emissions not exceed 8.0 pounds per hour or, if no odor nuisance exists, do not qualify as photochemically reactive material as defined in 35 IAC 211.4690.

3.2.3 For each cold cleaning degreaser, the Permittee shall comply with the applicable equipment and operating requirements of 35 IAC 219.182.

3.2.4 For each open burning activity, the Permittee shall comply with 35 IAC Part 237, including the requirement to obtain a permit for open burning in accordance with 35 IAC 237.201, if necessary.

3.2.5 For each storage tank that has a storage capacity greater than 946 liters (250 gallons) and, if no odor nuisance exists, that stores an organic material with a vapor pressure exceeding 2.5 psia, the Permittee shall comply with the applicable requirements of 35 IAC 219.122, which requires use of a permanent submerged loading pipe, submerged fill, a vapor recovery system, or an equivalent device approved by the Illinois EPA. [Note: storage tanks used for storing gasoline and any hazardous air pollutants are not eligible for insignificant activities].

3.2.6 For sulfuric acid operations and storage, the Permittee shall comply with the following emission limits of sulfuric acid and/or sulfur trioxide from all emission sources (with the exception of fuel combustion emission sources and acid manufacturing) at a plant or premises, pursuant to 35 IAC 214.303:

a. 45.4 grams in any one hour period for sulfuric acid usage less than 1180 Mg/yr (100 percent acid basis) (0.10 lbs/hr up to 1300 T/yr); and

b. 250 grams per metric ton of acid used for sulfuric acid usage greater than or equal to 1180 Mg/yr (100 percent acid basis) (0.50 lbs/T over 1300 T/yr).

3.3 Addition of Insignificant Activities

3.3.1 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a

type that is identified in Condition 3.1, until the renewal application for this permit is submitted, pursuant to 35 IAC 201.212(a).

3.3.2 The Permittee must notify the Illinois EPA of any proposed addition of a new insignificant activity of a type addressed by 35 IAC 201.210(a) and 201.211 other than those identified in Condition 3.1, pursuant to Section 39.5(12)(b) of the Act.

3.3.3 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type identified in 35 IAC 201.210(b).

4.0 SUMMARY OF SIGNIFICANT EMISSION UNITS AT THIS SOURCE

Department	Description	Emission Control Equipment	Section
Material Handling and Processing Operations	Coal Crusher, Coal Pulverizer, Conveyors, Screens, Storage Bins, Feed Hoppers	Baghouse, Various Dust Collectors and Enclosures	7.1
Coke Production	Coke Oven Batteries "A" and "B" Coke Quenching	Water Scrubber; Flares Tower, Baffles	7.2
Coke By-Product Recovery Plant	Various Storage Tanks and Process Vessels	Vapor Recovery System and Various Blanketing and Negative Pressure Systems	7.3
COG Desulfurization System	Amine Unit and SRU Unit	Thermal Oxidizer	
COG System	Holding Tank and COG Flare	None	
Blast Furnaces	Blast Furnaces "A" and "B" BFG Flares #1 and #2	Casthouse Baghouse; Iron Spout Baghouse	7.4
Basic Oxygen Processes	BOF #1/#2 and Auxiliary Equipment	Electrostatic Precipitator; Baghouses	7.5
Continuous Casting	Continuous Casting and Slab Formation	None	7.6
Hot Strip Mill	Slab Reheat Furnaces	None	7.7
Finishing Operations	Pickling Line, Galvanizing Lines, Coating Operations	Fume Scrubbers; Catalytic Converter	7.8
Wastewater Treatment Plant	Various tanks, filtration and Lagoons	None	7.9
Boilers	Power Boiler #1 Boilers #11 and #12 Cooling Water Tower Portable Boilers #1 - #4	Flue Gas Recirculation (planned for Boilers #11 and #12)	7.10
Internal Combustion Engine	Emergency Engine-Generator	None	7.11
Gasoline Storage and Dispensing	Four Gasoline Storage Tanks and associated Dispensing Operations	None	7.12

Department	Description	Emission Control Equipment	Section
Fugitive Dust	Landfill Vehicular Traffic on Roadways, Parking Lots and Other Open Areas Storage Piles including truck unloading, wind erosion and material transfer from storage piles, beaching areas	None	7.13

5.0 OVERALL SOURCE CONDITIONS

5.1 Applicability of Clean Air Act Permit Program (CAAPP)

5.1.1 This permit is issued based on the source requiring a CAAPP permit as a major source of NO_x, PM_{10}, SO_2, VOM, CO, GHG and HAP emissions.

5.1.2 For purposes of the CAAPP, U.S. Steel is considered a single source with Stein Steel Mill Services (I.D. 119813AAD) located at 20th Street and Edwardsville in Granite City. Stein Steel Mill Services has a separate CAAPP permit for it operations.

5.1.3 For purposes of the CAAPP, U.S. Steel is considered a single source with Granite City Slag, LLC (I.D. 119040ATF) located at 20th Street and Edwardsville in Granite City. Granite City Slag has a separate CAAPP permit for it operations.

5.1.4 For purposes of the CAAPP, U.S. Steel is considered a single source with AKJ Industries, Inc (I.D. 119040AEB) located at 20th Street and Edwardsville in Granite City. AKJ Industries has a separate CAAPP permit for it operations.

5.1.5 For purposes of the CAAPP, U.S. Steel is considered a single source with Oil Technology, Inc (I.D. 119040ATG) located onsite of Granite City Steel (Route 203) in Granite City. Oil Technology has a separate CAAPP permit for it operations.

5.1.6 For purposes of the CAAPP, U.S. Steel is considered a single source with Tube City IMS (I.D.119040ATL) located at 2500 East 23rd Street in Granite City. Tube City has a separate CAAPP permit for it operations.

5.1.7 For purposes of the CAAPP, U.S. Steel is considered a single source with Gateway Energy & Coke Co LLC (I.D. 119040ATN) located at Edwardsville Road in Granite City. Gateway Energy & Coke has elected to obtain a separate CAAPP permit for its operations.

5.2 Area Designation

5.2.1 This permit is issued based on the source being located in an area that, as of the date of permit issuance, is designated nonattainment for the National Ambient Air Quality Standards for ozone (moderate nonattainment), $PM_{2.5}$ and lead, and attainment or unclassifiable for all other criteria pollutants (PM_{10}, CO, NO_x, SO_2).

5.3 Source-Wide Applicable Provisions and Regulations

5.3.1 Specific emission units at this source are subject to particular regulations as set forth in Section 7 (Unit-Specific Conditions for Specific Emission Units) of this permit.

5.3.2 Fugitive Dust

a. This source shall be operated under the provisions of Fugitive Particulate Matter Operating Program prepared by the Permittee and submitted to the Illinois EPA for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions [35 IAC 212.309(a)]. The Permittee shall comply with the fugitive particulate matter operating program and any amendments to the program submitted pursuant to Condition 5.3.2(b), as required by 35 IAC 212.309. As a minimum, the operating program shall include provisions identified in 35 IAC 212.310(a) through (g) and the following:

   i. A detailed description of the best management practices utilized to achieve compliance with 35 IAC 212.304 through 212.308.

   ii. Estimated frequency of application of dust suppressants by location; and

   iii. Such other information as may be necessary to facilitate the Illinois EPA's review of the operating program.

b. Pursuant to 35 IAC 212.312, the operating program shall be amended from time to time by the Permittee so that the operating program is current. Such amendments shall be consistent with the requirements set forth by this Condition 5.3.2 and shall be submitted to the Illinois EPA within 30 days of such amendment.

c. In addition to the items described above in Condition 5.3.2(a), the Permittee shall include the following additional plans and programs as part of the Fugitive Particulate Matter Operating Program:

   i. Housekeeping program for non-roadway areas as required by Condition 7.13.5(a)(i)(B);

   ii. Road Cleaning Program as required by Condition 7.13.5(d); and

   iii. On-site fugitive dust control program as referenced in Condition 7.13.9(b).

d. The revised Fugitive Particulate Matter Operating Program, submitted by the Permittee on August 12, 2009, (identified as Revision 8 and necessitated by changes to responsible officials and description of areas treated] and containing an attached Table and Map for the iron-making and steel-making roads respectively), is incorporated herein by reference. The document constitutes the formal operating program required under 35 IAC 212.310, addressing the control of fugitive particulate matter emissions from all plant roadways, including the iron-making and steel-making

roads, storage piles, access areas near storage piles, and other subject operations located at the facility that are subject to 35 IAC 212.309.

Any future revision to the aforementioned operating program made by the Permittee during the permit term is automatically incorporated by reference provided that said revision is not expressly disapproved, in writing, by the Illinois EPA within 30 days of receipt of said revision. In the event that the Illinois EPA notifies the Permittee of a deficiency with any revision to the operating program, the Permittee shall be required to revise and resubmit the operating program within 30 days of receipt of notification to address the deficiency [415 ILCS 39.5(7)(a)].

e. Pursuant to 35 IAC 212.301, the affected emission units at the source shall not cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at a point beyond the property line of the source.

f. Pursuant to 35 IAC 212.307, all unloading and transporting operations of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods.

5.3.3 PM_{10} Contingency Measure Plan

a. This stationary source meets the criteria in 35 IAC 212.700 and is required to prepare and submit a contingency measure plan reflecting the PM_{10} emission reductions as set forth in 35 IAC 212.701 and 212.703.

b. PM_{10} Contingency Measure Plan shall be implemented by the Permittee in accordance with 35 IAC 212.704 upon notification from the Illinois EPA.

c. Pursuant to 35 IAC 212.701(c), for operational changes subject to Sections 212.304, 212.305, 212.306, 212.308, 212.316(a) through (e), 212.424 or 212.464 which require either a new permit or a revision to an existing permit the Permittee shall, within 30 days after such changes, submit a request to modify this CAAPP permit in order to include a new, appropriate contingency measure plan.

d. The plan, as submitted by the Permittee on November 15, 1994 (which includes tabulations of PM_{10} fugitive emissions, maps for the steel-works and iron making respectively, and a comparative analysis of contingency requirements and existing road programs), is incorporated herein by reference. The document constitutes the formal PM_{10} Contingency Measure Plan required by 35 IAC 212.701, addressing the Levels 1 and 2 control measures for reducing annual source-wide fugitive emissions of PM_{10} from plant

roads (paved and unpaved) and materials handling operations in the event of an exceedance of the 24-hour ambient air quality standard for PM10 under 35 IAC 212.704 or 212.705.

5.3.4 Ozone Depleting Substances

The Permittee shall comply with the standards for recycling and emissions reduction of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

5.3.5 Standards for Asbestos Demolition and Renovation (40 CFR 61.145)

a. Prior to demolition or renovation of the affected facility or part of the affected facility, the Permittee shall fulfill notification requirements established by 40 CFR 61.145(b).

b. During demolition or renovation, the Permittee shall comply with the procedures for asbestos emission control established by 40 CFR 61.145(c).

5.3.6 Future Emission Standards

Should this stationary source become subject to a regulation under 40 CFR Parts 60, 61, 62, or 63, or 35 IAC Subtitle B after the date this permit is issued, then the owner or operator shall, in accordance with the applicable regulation(s), comply with the applicable requirements by the date(s) specified and shall certify compliance with the applicable requirements of such regulation(s) as part of the annual compliance certification, as required by Condition 9.8. This permit may also have to be revised or reopened to address such new regulations (see Condition 9.12.2).

5.3.7 Episode Action Plan

a. Pursuant to 35 IAC 244.141, the Permittee shall maintain at the source and have on file with the Illinois EPA a written Episode Action Plan (plan) for reducing the levels of emissions during yellow alerts, red alerts, and emergencies, consistent with safe operating procedures.

b. The Permittee shall immediately implement the appropriate steps described in this plan should an air pollution alert or emergency be declared, as required by 35 IAC 244.169, or as may otherwise be required under 35 IAC 244, Appendix D.

c. If an operational change occurs at the source which invalidates the plan, a revised plan shall be submitted to the Illinois EPA for review within 30 days of the change, pursuant to 35 IAC 244.143(d). Such plans shall be further revised if disapproved by the Illinois EPA.

d. The revised plan, submitted by the Permittee on October 19, 2009, (which contains a completed APC Form 100 and attached Tables I-V identifying additional actions to be implemented), is incorporated herein by reference. The document constitutes the formal Episode Action Plan required by 35 IAC 244.142, addressing the actions that will be implemented to reduce SO_2, PM_{10}, NO_2, CO and VOM emissions from various emissions units in the event of a yellow alert, red alert or emergency issued under 35 IAC 244.161-244.165.

Any future revision to the aforementioned plan made by the Permittee during the permit term is automatically incorporated by reference provided that said revision is not expressly disapproved, in writing, by the Illinois EPA within 30 days of receipt of said revision. In the event that the Illinois EPA notifies the Permittee of a deficiency with any revision to the plan, the Permittee shall be required to revise and resubmit the plan within 30 days of receipt of notification to address the deficiency [415 ILCS 39.5(7)(a)].

5.3.8 Risk Management Plan (RMP)

Should this stationary source, as defined in 40 CFR 68.3, become subject to the federal regulations for Chemical Accident Prevention in 40 CFR Part 68, then the owner or operator shall submit the items below. This condition is imposed in this permit pursuant to 40 CFR 68.215(a)(2)(i) and (ii).

a. A compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR 68.10(a); or

b. A certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the RMP, as part of the annual compliance certification required by Condition 9.8.

5.3.9 Energy Assessment (40 CFR 63, Subpart DDDDD)

Pursuant to 40 CFR 63.7500(a)(1) and Item 3 of Table 3 of 40 CFR 63 Subpart DDDDD, the Permittee must have a one-time energy assessment performed on the major source facility (i.e., the facility) by a qualified energy assessor. This energy

assessment shall be completed no later than the applicable compliance date of this NESHAP for existing sources and meet requirements in Table 3, including preparation of a comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments. This energy assessment shall be conducted consistent with the definitions for "energy assessment", "energy management practices" and "energy use system" in 40 CFR 63.7575

5.4 Source-Wide Non-Applicability of Regulations of Concern

a. Except where noted, 35 IAC 212.321 and 212.322 shall not apply to the steel manufacturing processes subject to 35 IAC 212.442 through 212.452 [35 IAC 212.441].

b. Except where noted, emission limitations of 35 IAC 212.324 are not applicable to any emission unit subject to a specific emissions standard or limitation contained in 35 IAC Subpart R, Primary and Fabricated Metal Products and Machinery Manufacture pursuant to 35 IAC 212.324(a)(3)(C).

c. This source (as a source of coke manufacturing, by-products recovery plant, iron and steel production) is excluded from the control requirements of 35 IAC Part 219 Subpart TT pursuant to 35 IAC 219.980(e).

d. This source does not receive any off-site waste as defined in 40 CFR 63.680(b) and, therefore is not subject to 40 CFR Part 63 Subpart DD "Off-site Waste and Recovery Operations".

e. The source is not required to address 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources at the time of issuance of this permit, because the initial CAAPP application was submitted prior to April 1998 [40 CFR 64.5(a)(1)].

5.5 Source-Wide Control Requirements and Work Practices

The Permittee (U.S. Steel), in conjunction with Gateway Energy and Coke Company shall maintain 267.77 tons of PM_{10} emission offsets generated by the following activities/projects (see also Sections 7.3 and 7.13):

Activity/Project	(Tons/Year)
Coke Oven Gas (COG) Desulfurization Project	31.74
Road Cleaning Program	236.03
Total:	267.77

a. These emission reductions have been relied upon by the Illinois EPA to issue Construction Permits 06070088 and 06070020 for projects by the Permittee and Gateway, respectively and cannot be used as emission reduction credits for other purposes.

b. If the Permittee proposes to rely upon emission offsets from other sources or other activities/projects, the Permittee shall

apply for and obtain a revision to Permit 06070088 prior to relying on such emission offsets, which application shall be accompanied by detailed documentation for the nature and amount of those alternative emission offsets.

5.6 Source-Wide Production and Emission Limitations

5.6.1 Emissions of Hazardous Air Pollutants

Source-wide emission limitations for HAPs as listed in Section 112(b) of the CAA are not set. This source is considered to be a major source of HAPs.

5.6.2 Other Source-Wide Production and Emission Limitations from existing permits:

a. Provisions from Construction Permit #95010001

i. Total production of iron and steel by U.S. Steel/Granite City plant shall not exceed the following limits. Compliance with these annual production limits shall be determined on a month by month basis by showing that the actual production of iron and steel from the plant did not exceed the scheduled rate of production for a month given in the most recent production schedule provided to the Illinois EPA Compliance Section and Collinsville Regional Office as provided below [T1]:

Product	Net tons/yr
Iron	3,165,000
Steel	3,580,000

A. If no production schedule is submitted to the Illinois EPA by the Permittee for a particular year, the scheduled monthly production of iron and steel shall be set at one twelfth of the annual production limits in Condition 5.6.2(a)(i) above.

B. 1. The Permittee may submit a schedule for iron and steel production for each month of the calendar year. Such schedule shall provide the scheduled monthly iron and steel production for each month and the total of such scheduled production shall not exceed the annual production limits in Condition 5.6.2(a)(i) above. This schedule shall be submitted each year no later than December 15th of the preceding year.

2. During the course of the year, the Permittee may submit a revised production

schedule which accounts for actual production levels which were below that scheduled for the previous months, provided that in no case shall the scheduled production for prior months in such a revised schedule be lowered to less than actual production levels or raised. Such revised schedule shall be submitted no later than 15 days after the first day of the month for which scheduled production has been raised. Such schedule shall be accompanied by data on actual production in preceding months.

ii. Total fuel usage for blast furnaces stoves (A and B), boilers 11 and 12, ladle drying preheaters and blast furnace gas flare #1 and shall not exceed the following limits. Compliance with the monthly limits shall be determined by direct comparison of monthly data to the applicable limit. Compliance with the annual limits shall be determined based on a calendar year [T1]:

A. Natural Gas usage:

225 million ft^3 per month and 1,346 million ft^3 per year;

B. Blast Furnace Gas (BFG) usage:

30,800 million ft^3 per month and 185,030 million ft^3 per year; and

C. Fuel Oil usage:

60,000 gallons per month and 365,000 gallons per year.

iii. A. Annual emissions from the fuel combustion units identified in Condition 5.6.2(a)(ii) above shall not exceed the following limits in tons/year:

PM/PM_{10}	SO_2*	NO_x	VOM	CO	Lead
274	641	706	2	1,295	0.06

* These limits have been addressed by an enforcement action, with a compliance schedule established for compliance with these limits. (See Condition 7.4.13)

B. Annual emissions from each individual fuel used in the fuel combustion units identified in

Condition 5.6.2(a)(ii) above shall not exceed the following limits:

1. Natural Gas

Pollutant	Emission Factor (Lbs/mmcf)	Maximum Emissions (Tons/Yr)
PM	5.1	3.43
PM_{10}	5.1	3.43
SO_2	0.6	0.40
NO_x	306.0	205.94
VOM	2.8	1.88
CO	40.0	26.92

2. BFG

Pollutant	Emission Factor (Lbs/mmcf)	Maximum Emissions (Tons/Yr)
PM	2.90	268.29
PM_{10}	2.90	268.29
SO_2	6.65*	615.22*
NO_x	5.28	488.48
CO	13.70	1,267.46

* These limits have been addressed by an enforcement action, with a compliance schedule established for compliance with these factors and limits. (See Condition 7.4.13)

3. Fuel Oil

Pollutant	Emission Factor (Lbs/Mgal)	Maximum Emissions (Tons/Yr)
PM	9.72	1.77
PM_{10}	9.75	1.77
SO_2	141.30	25.79
NO_x	55.00	10.04
VOM	0.28	0.05
CO	5.00	0.91
Lead	0.336	0.06 (Waste Oil)

C. Compliance with the annual limits in Condition 5.6.2(a)(iii) shall be determined based on a calendar year.

b. Provisions from Construction Permit #06070022:

Annual emissions of the source from combustion of COG shall not exceed the following limits [T1)]

	Limits (Tons/Year)	
	PM_{10}	SO_2
"Outage" of Affected System	47.55	530.59
Total (includes normal and outage):	224.80	807.90

c. Provisions from FESOP #94120017:

Emissions of SO_2 from the so called "sulfur dioxide emission units" operated at the source shall not exceed the following limits. Compliance with the limits shall be determined in accordance with the procedure in Condition 5.12.

Unit Operating Group	Sulfur Dioxide Emissions		
	(Lbs/3-Hours)	(Lbs/Day)	(Tons/Yr)
Slab Reheat Furnaces 1-3	2,299	9,754	987
Slab Reheat Furnace 4	---	11,873	1,204
Blast Furnace Stoves A and B	---	19,774	3,609
Boilers 11 and 12	---	20,584	3,756
Ladle Drying Preheaters	555	2,786	509
Blast Furnace Casthouse Baghouse	---	3,430	626
Iron Spout Baghouse	---	170	31

5.7 Source-Wide Testing Requirements

Pursuant to 35 IAC 201.282 and Section 4(b) of the Act, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:

a. Testing by Owner or Operator: The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests [35 IAC 201.282(a)].

b. Testing by the Illinois EPA: The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary [35 IAC 201.282(b)].

c. Any such tests are also subject to the Testing Procedures of Condition 8.5 set forth in the General Permit Conditions of Section 8.

5.8 Source-Wide Monitoring Requirements

a. Requirements for coke oven gas (COG) flow meters from FESOP #94120017: for purposes of these conditions, a Unit Operating Group is a group of emission units as defined in Condition 5.6.2(c).

Note: Requirements for monitoring the sulfur content of COG as present in FESOP #94120017 are included in Section 7.3 of this CAAPP permit.

i. The Permittee shall test, operate, and maintain a system for measuring the COG usage for each unit operating group.

ii. A flow meter shall be maintained on the main Blast Furnace and Steelworks COG feed lines and each individual emission unit or unit operating group and shall be used to measure the COG usage rate. The total COG usage for each unit operating group as a whole shall be the sum of the individual usage for the emission units of that group as measured by the individual meters or that measured by a single flow meter measuring the COG usage for the unit operating group as a whole.

iii. The COG flow meter system shall be capable of recording the COG usage in standard cubic feet on an hourly and daily basis. COG usage shall be obtained from the COG flow meter system to allow the determination of hourly and/or daily COG usage for each unit operating group, as needed for the emission rate calculations of this permit.

iv. The COG flow meter system shall be operated, and data collected, reduced and maintained, in accordance with the applicable requirements of 40 CFR 60.13 and 35 Ill. Adm. Code Part 201 Subpart L.

A. Each COG flow meter shall be tested at least every 12 months, in accordance with the procedures of 40 CFR 60, Appendix B, Performance Specification 6.

B. The results of these flow meter performance tests shall be sent to the Illinois EPA's Division of Air Pollution Control, Permit Section and Regional Office within 14 days after completion of the tests. In addition, the results shall be maintained in accordance with the recordkeeping requirements specified in this permit.

C. If a single flow meter on an unit operating group fails, then the COG usage for that group may be calculated using the difference between overall total COG usage and the total COG usage at the remaining properly operating COG flow meters, or the difference in COG usage from the main COG feed line of the affected unit operating group and the COG usage at the remaining properly operating flow meters associated with that main feed line.

D. In the event that several flow meters are down such that the above COG usage calculation is not possible, the COG usage for the affected unit operating group(s) shall be determined by a method approved by the Illinois EPA (e.g., use of temporary backup measurement system). In no case shall COG usage not be determined by a method described in this permit, or an approved alternative method, so as to result in insufficient data being obtained to determine the COG usage for any unit operating group as needed to evaluate compliance using the emission rate calculations of this permit.

v. In the event of malfunction or breakdown of a COG flow meter system, the Permittee shall repair and recalibrate the meter or monitoring system as soon as practicable but no later than 10 days after the malfunction or breakdown is detected, unless prior Illinois EPA approval is obtained by submitting a notification of extended outage and adequate justification to the Illinois EPA detailing the reasons for delay. Records of repair and recalibration must be maintained in accordance with the recordkeeping requirements of this CAAPP permit. This condition does not relieve the Permittee of the minimum data obtaining requirements of this CAAPP permit.

b. The Permittee shall conduct observations at the property line of the source for visible emissions of fugitive particular matter form the source to address compliance with 35 IAC 212.301, upon request by the Illinois EPA, as follows:

For this purpose, daily observations shall be conducted for a week for particular area(s) of concern at the source, as specified in the request. Observations shall begin either within one day or three days of receipt of a written request

from the Illinois EPA, depending, respectively, upon whether observations will be conducted by employees of the Permittee or a third-party observer hired by the Permittee to conduct observations on its behalf. The Permittee shall keep records for these observations, including identity of the observer, the date and time of observations, the location(s) from which observations were made, and duration of any fugitive emissions event(s).

c. Pursuant to FESOP 94120017, the Permittee shall analyze the fuel oil used at the source in accordance with the following.

i. The sulfur content and density as determined by the ASTM methods specified in the testing requirements of FESOP 94120017 shall be used in emission calculations.

ii. The sulfur content and density of the fuel oil shall be determined upon each instance of fuel oil usage.

5.9 Source-Wide Recordkeeping Requirements

5.9.1 Records for Opacity and Emission Limits

The Permittee shall maintain the following records pursuant to Section 39.5(7)(b) of the Act:

a. The Permittee shall maintain records of the total annual net production of iron and steel on a monthly basis and a total calendar year basis, to verify compliance with Condition 5.6.2(a)(i).

b. The Permittee shall maintain records of monthly and annual use of fuels to verify compliance with Condition 5.6.2(a)(ii).

c. The Permittee shall maintain records of annual emissions from the emission units listed in Condition 5.6.2(a)(ii) for comparison to the annual emission limits in Condition 5.6.2(a)(iii)(A) for PM/PM_{10}, SO_2, NO_x, VOM, CO and lead.

d. The Permittee shall maintain the following records for the emission units identified in Condition 5.6.2(a)(ii) to verify the emission factors for different fuels listed in Condition 5.6.2(a)(iii)(B):

i. For emissions of NO_x, PM, PM_{10}, VOM, and CO, records for the emission factors used by the Permittee to determine emissions of the pollutant from the subject emission units for firing of natural gas, blast furnace gas and oil, with supporting documentation and analysis, and the "maximum" annual emission factors for the different fuels and pollutants calculated as a weighted average of the individual

factors for different emission units, weighted for the greatest relative annual use of fuel in different units, beginning with the unit that has the highest emission factor. For example, if the boilers have the highest emission factors for NO_x, the factors shall be weighted for the greatest percentage of fuels expected to be used in the boilers, and then for the units that have the next highest emission factor(s), and so forth until all of the fuel has been accounted for. These records shall be reviewed and updated by the Permittee as necessary to assure that the emission factors that it uses to determine emissions of the subject unit do not understate emissions, including review when emission testing is conducted for the subject emission units, review when emission testing of similar emission units is conducted at other facilities (as would be needed if the Permittee is relying upon data from emission testing at other US Steel facilities), and review when USEPA revises its *Compilation of Air Pollutant Emission Factors*, AP-42 (as would be needed if the Permittee has relied upon emission factors from AP-42). These records shall be prepared and copies submitted to the Illinois EPA in accordance with Condition 5.9.6(c).

ii. Records for the sulfur content of COG and BFG, as measured pursuant to Conditions 5.9.1(e) and 7.3.9(f) and Condition 7.10.8-1(c), respectively, which data shall either be used when determined SO_2 emissions from combustion of the fuels or used to confirm that the determinations of SO_2 emissions from combustion of these fuels do not understate actual SO_2 emissions.

iii. Records for the actual average annual emission rates for different fuels and pollutants, including SO_2 and lead, calculated by dividing the actual emissions of the subject units for different fuels and pollutants by the annual usage of fuels. These records shall be compiled on an annual basis by the Permittee when the records for annual emissions of the subject units are compiled.

e. The Permittee shall maintain the following records for the emissions of PM_{10}* and SO2 associated with use of COG to verify compliance with the emission limits in Condition 5.6.2(b). (See also recordkeeping requirements in Section 7.3 of the permit.)

* For the purpose of this condition, the Permittee shall address total PM_{10}, including both filterable and condensable particulate, rather than only filterable particulate.

i. Records for the volumes of COG that are and are not processed by the COG Desulfurization System (scf), with data for undesulfurized COG on a 3-hour, daily and monthly basis and data for desulfurized COG on a daily and monthly basis.

ii. Records for the sulfur contents of COG (gr/scf or gr/100 scf), with data for undesulfurized COG on a 3-hour, daily and monthly basis and data for desulfurized COG on a daily and monthly basis.

iii. Records for the emission factors used by the Permittee to determine the PM_{10} emissions from firing desulfurized and undesulfurized COG for the emission units at the facility that fire COG, with supporting documentation and analysis, and the "maximum" annual PM_{10} emission factor calculated as a weighted average of the individual factors for different emission units, weighted for the greatest relative annual use of COG in different units, beginning with the unit that has the highest emission factor. These records shall be reviewed and updated by the Permittee as necessary to assure that the emission factors that it uses to determine emissions of units firing COG do not understate emissions, including review when PM_{10} emission testing is conducted for units at the facility and review when PM_{10} emission testing of similar emission units is conducted at other facility.

iv. Records for the annual PM_{10} and SO_2 emissions from the facility from combustion of COG that has not been desulfurized, determined from the summation of the volume of such COG multiplied by either its sulfur content or the established PM10 emission factor for undesulfurized COG.

v. Records for the annual PM_{10} and SO_2 emissions from the facility from combustion of COG that has been desulfurized, determined from the summation of the volume of such COG multiplied by either its sulfur content or the established PM10 emission factor for desulfurized COG.

vi. Records for the total annual PM_{10} and SO_2 emissions from the facility from combustion of COG, determined as the sum of the annual emission from combustion of COG that has and has not been desulfurized.

5.9.2 Records for HAP Emissions

The Permittee shall maintain source-wide records of HAP emissions on a calendar year basis and individually for the emission units or group of emission units covered by Section 7 (Unit Specific Conditions for Specific Emission Units) of this

permit and emitting HAPs, pursuant to Section 39.5(7)(b) of the Act.

5.9.3 Records for Source-Wide Control Requirements and Work Practices

a. The Permittee shall keep a copy of the fugitive particulate matter operating plan, and any amendments or revisions to the plan, as required by Condition 5.3.2. The Permittee shall also keep a record of activities completed according to the plan.

b. The Permittee shall keep copy of the PM_{10} contingency plan, and any amendments or revisions as described by Condition 5.3.3. The Permittee shall also keep a record of activities completed according to the plan.

c. The Permittee shall keep a copy of the Episode Action Plan, and any amendments or revisions to the plan, as described in Condition 5.3.7. The Permittee shall also keep a record of activities completed according to the plan.

d. The Permittee shall keep a record of property line observations required by Condition 5.8(b).

5.9.4 Records to address SO_2 emission limits in Condition 5.6.2(c) from FESOP #94120017:

a. SO_2 emissions of each unit operating group in terms of the associated emission limits of this permit (i.e., lbs/3-hrs and lbs/day) accompanied by the data from which they were determined.

b. SO_2 emissions of each unit operating group in tons/month.

c. SO_2 emissions of each unit operating group in tons/year determined by using a rolling total of the previous 12 consecutive months of data.

d. Records for repairs of any COG flow meter, as required by Condition 5.8(a)(v), including copies of any notifications to the Illinois EPA for extended outage of a flow meter.

e. Records for any fuel oil usage instances with the results of the sampling and analysis of oil sulfur content.

5.9.5 The Permittee shall retain copies of all emission test reports and other test reports and other submittals to the Illinois EPA related to testing that are required by Conditions 5.7 and 5.10 and other conditions of this permit.

5.9.6 Retention, Availability and Submittal of Records

Pursuant to Section 39.5(7)(e)(ii) of the Act, the Permittee shall keep the records required by this permit as follows:

a. All records and logs required by this permit shall be retained for at least five years from the date of entry (unless a longer retention period is specified by the particular recordkeeping provision herein). The Permittee shall keep the last 3 years of data on-site and remaining 2 years data may be kept at an offsite location. The Permittee shall make all these readily accessible records available to the Illinois EPA or USEPA for inspection and/or copying upon request.

b. The Permittee shall retrieve and print, on paper during normal source office hours, any records retained in an electronic format (e.g., computer) in response to an Illinois EPA or USEPA request for records during the course of a source inspection.

c. For certain records related to emission factors or emission rates required to be kept by this permit for various emission units at this source, as specifically identified in other conditions of this permit, the Permittee shall submit a copy of the records to the Illinois EPA as provided below:

i. Copies of initial records shall be submitted to the Illinois EPA within 15 days of the date that the Permittee prepares these records for subject unit(s), which shall in no case be later than January 20, 2012.

ii. Thereafter, copies of revised records shall be submitted to the Illinois EPA with the emission test reports for subject emission unit(s) if the records were revised as a consequence of emission testing or otherwise within 15 days of the date that the Permittee completes the preparation of revised records for subject unit(s).

5.9.7 Inspection, Sampling and Observations Documentation

Inspection, sampling and observation performed as required by this permit shall have documentation in addition to the records elsewhere in this permit that identifies at least the following:

a. Name of person(s) or representative performing such activity;

b. Date and time of such activity;

c. Any applicable industry standards or other specific procedures for such activities; and

d. Any quality assurance or quality control results.

5.10 Source-Wide Reporting Requirements

5.10.1 General Source-Wide Reporting Requirements

a. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the Illinois EPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows:

i. Requirements in Condition 5.3.2(d) and (e)

ii. Requirements in Condition 5.5.

iii. Requirements in Condition 5.6.2.

b. All such deviations shall be summarized and reported as part of the semiannual monitoring report required by Condition 8.6.1.

c. The Permittee shall notify the Illinois EPA, Air Compliance Section, of all other deviations as part of the semiannual monitoring reports required by in Condition 8.6.1.

d. All required deviation reports described in Condition 5.10.1 above shall contain the following information:

i. Date and time of the deviation;

ii. Emission units(s)/operation involved;

iii. The duration of the event;

iv. Probable cause of the deviation;

v. Any corrective actions or preventative measures taken;

vi. Reporting on malfunction and breakdown shall be performed in accordance with Condition 5.10.5; and

vii. Reporting on startup shall be performed in accordance with Condition 5.10.5.

5.10.2 Annual Emissions Report

a. The annual emissions report required pursuant to Condition 9.7 shall contain emissions information, including HAP emissions, for the previous calendar year.

b. The Permittee shall submit the following additional information from the prior calendar year with the Annual Emissions Report, due May 1st of each year, pursuant to Permit 95010001:

i. Iron and steel production (tons/month and tons/yr, each);

ii. Natural gas and BFG usage ($mmft^3$/month and $mmft^3$/yr, each); and

iii. Fuel oil usage (thousand gallons/month and thousand gallons/yr, for each type of oil).

c. The Permittee shall submit an annual report to the Illinois EPA with its Annual Emission Report describing the implementation of the Road Cleaning Program for the affected road segments, as defined in Condition 7.13.5(d), during the previous year. This report shall at a minimum provide: the number of times each road segment was cleaned; the number of times that scheduled cleaning was not performed, with explanation; a description of any significant changes in road cleaning equipment or cleaning practices, with explanation; and a description of other significant changes to the Program, including changes in contractors [Permit #06070088].

5.10.3 Reporting requirements from FESOP #94120017

a. The Permittee shall submit quarterly reports (every 3 calendar months) to the Illinois EPA. This report is due 30 days after the end of the reporting period and may be submitted on computer disk. This report shall contain the following information for the days during the quarter:

i. A summary showing the emissions of SO_2 for each unit operating group for each day and the 12 month rolling average in tons/year.

ii. A statement identifying any apparent violations which occurred during the quarter covered by the report or, if there have been no apparent violations, a statement to that effect.

iii. A summary of any COG flow meter downtime.

iv. Identification of any days for which data for at least 75% of the operating hours of the unit operating group was not obtained by an approved method; justification for not obtaining the data; and description of corrective action taken.

b. These reports shall be sent to IEPA Compliance Section in Springfield and IEPA Regional Office in Collinsville.

c. Copies of the Final Report for the tests identified in Condition 5.8(a)(iv) shall be submitted to the Illinois EPA along with the quarterly reports required by this CAAPP permit within 30 days after the reported quarter.

5.10.4 Other Source-Wide Reporting Requirements

a. i. A quarterly report shall be submitted to the Illinois EPA stating the following: the dates any necessary control measures were not implemented, a listing of those control measures, the reasons that the control measures were not implemented, and any corrective actions taken. This information includes, but is not limited to, those dates when controls were not applied based on a belief that application of such control measures would have been unreasonable given prevailing atmospheric conditions, which shall constitute a defense to the requirements of this Section. This report shall be submitted to the Illinois EPA thirty (30) calendar days from the end of a quarter. Quarters end March 31, June 30, September 30, and December 31 [35 IAC 212.316(g)(5)].

ii. The reporting requirements from the above are established for fugitive particulate matter control measures implemented for the certain operations identified in 35 IAC 212.316(b) through 212.316(f).

iii. Control measures for this condition are those identified in the Fugitive Particulate Matter Operating Program.

b. Upon written request by the Illinois EPA, a report shall be submitted to the Illinois EPA for any period specified in the request stating the following: the dates during which any process emission unit was in operation when the air pollution control equipment was not in operation or was not operating properly, documentation of causes for pollution control equipment not operating or not operating properly, and a statement of what corrective actions were taken and what repairs were made [35 IAC 212.324(g)(6)].

5.10.5-1 Reporting for Startups (State Authorization)

Pursuant to 39.5(7)(a) and (f)(ii) of the Act, when startup reports are required for an emission unit by unit specific conditions in Chapter 7 of this permit, such reports shall be submitted to the Illinois EPA, Air Compliance Section and Collinsville Regional Field Office on a semi-annual basis, and include the following information related to startups of such emission unit and associated air pollution control equipment.

a. If startups occurred during the reporting period, the report shall include the following:

i. The number of startups.

ii. The number of departures from established procedures.

iii. The number of exceedances of each applicable standard.

iv. A general explanation for the magnitude of the numbers reported and the significance or meaning of those numbers.

v. A general explanation for the departures.

vi. A general explanation for the exceedances.

vii. A general discussion of whether any improvements were made to startup practices

b. If there were no startups for the reporting period, a statement that "No startups occurred during this reporting period."

c. Startups that resulted in excess emissions shall be addressed in the deviation reports as required by unit specific conditions in Chapter 7 of this permit.

5.10.5-2 Reporting for Malfunction or Breakdown (State Authorization)

a. The Permittee shall provide the following notification and reports to the Illinois EPA, Air Compliance Section and Collinsville Regional Field Office, pursuant to 35 IAC 201.263, concerning continued operation of an affected emission unit or related air pollution control equipment when such continued operation would cause a violation of a standard or limitation in 35 IAC Subtitle B, Chapter I, subchapter c:

i. If an emission unit or control device operates during a malfunction/breakdown, the Permittee shall immediately report such event to the Illinois EPA within 2 working days after such event occurs. The immediate notification shall be provided to the Illinois EPA's Springfield Office (Compliance Section) by a telephone, facsimile, electronic mail or other alternative method of correspondence that constitutes the fastest available alternative. The immediate notification shall be followed by a letter to the Illinois EPA's Springfield Office (Compliance Section), postmarked within 7 working days after the end of the event. The 7 day follow-up letter shall contain the name, title, and signature of the owner or operator or other responsible official certifying its accuracy, explaining the circumstances and reasons for event, describing all excess emissions and/or parameter monitoring exceedances which may have occurred during the malfunction/breakdown event, actions taken to minimize emissions or parameter exceedance and all repairs made in conjunction with such malfunction/breakdown event.

ii. If all the necessary information identified above is contained within the 2-day immediate notification and the notification was done by means of written correspondence, a 7-day follow-up letter is not required to be submitted.

iii. A summary of these malfunction/breakdown reports required by this permit shall be submitted to the Illinois EPA's Springfield Office Compliance Section on a quarterly basis and contain the following:

A. Date and time of malfunction/breakdown;

B. Emission unit(s)/control involved;

C. The duration of the event;

D. Probable cause of malfunction/breakdown; and

E. Repairs and other corrective actions taken.

5.10.5-3 Federal Startup Shutdown and Malfunction/Breakdown Requirements

a. For those emission units subject to a NESHAP standard and for which an SSM plan is required under 40 CFR 63.10(d)(5), the Permittee shall submit reports as required by the NESHAP including:

i. Periodic startup, shutdown or malfunction reports [40 CFR 63.10(d)(5)(i)]

A. 1. If actions taken by an owner or operator during a startup or shutdown (and the startup or shutdown causes the affected emission unit to exceed any applicable emission limitation in the relevant NESHAP emission standards specified in Section 7 of this permit), or malfunction of an affected emission unit (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan (see 40 CFR 63.6(e)(3)), the Permittee shall state such information in a startup, shutdown, and malfunction report.

2. Actions taken to minimize emissions during such startups, shutdowns, and malfunctions shall be summarized in the report and may be done in checklist form; if actions taken are the same for each event, only one checklist is necessary.

3. Such a report shall also include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded.

B. The startup, shutdown, and malfunction report shall consist of the following:

A letter, containing the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy.

C. Reports shall only be required if a startup, shutdown or malfunction occurred during the reporting period.

D. The SSM Report shall be submitted to the Illinois EPA semiannually and shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate).

E. If the owner or operator is required to submit excess emissions and continuous monitoring system performance (or other periodic) reports required by this permit, the startup, shutdown, and malfunction reports required under 40 CFR 63.10(d) may be submitted simultaneously with the excess emissions and continuous monitoring system performance (or other) reports.

F. If startup, shutdown, and malfunction reports are submitted with excess emissions and continuous monitoring system performance (or other periodic) reports, and the owner or operator receives approval to reduce the frequency of reporting for the latter under 40 CFR 63.10(e), the frequency of reporting for the startup, shutdown, and malfunction reports also may be reduced if the Illinois EPA does not object to the intended change. The procedures to implement the allowance in the preceding sentence shall be the same as the procedures specified in 40 CFR 63.10(e)(3).

ii. Immediate startup, shutdown or malfunction reports [40 CFR 63.10(d)(5)(ii)]

A. Notwithstanding the allowance to reduce the frequency of reporting for periodic startup,

shutdown, and malfunction reports under 40 CFR 63.10(d)(5)(i), any time an action taken by an owner or operator during a startup or shutdown that caused the source to exceed any applicable emission limitation in the relevant NESHAP emission standards specified in Section 7 of this CAAPP, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate report stating the actions taken for that event within 2 working days after commencing actions inconsistent with the plan and a follow-up report submitted within 7 working days after the end of the event.

B. The immediate report shall consist of a telephone call (or facsimile (FAX) transmission) to the Illinois EPA.

C. The follow-up report shall consist of the following:

1. The name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy and explaining the circumstances of the event.

2. The reasons for not following the startup, shutdown, and malfunction plan.

3. Description all excess emissions and/or parameter monitoring exceedances which are believed to have occurred (or could have occurred in the case of malfunctions).

4. And actions taken to minimize emissions in conformance with 40 CFR 63.6(e)(1)(i).

5.10.6 Separate copies of all reports required by this permit shall be sent to the IEPA Regional Office in Collinsville.

5.10.7 <u>40 CFR 63, Subpart DDDDD (Notification of Compliance)</u>

a. Pursuant to 40 CFR 63.7545(b), the Permittee must submit an initial Notification according to 40 CFR 63.9(b)(2).

b. Pursuant to 40 CFR 63.7545(e), the Permittee must submit a Notification of Compliance Status according to 40 CFR 63.9(h)(2)(ii). For the initial compliance demonstration for each affected unit, the Permittee must submit the Notification of Compliance Status, including all

performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for the affected unit according to 40 CFR 63.10(d)(2).

c. For subject emission units, for which Permittee must conduct an initial compliance demonstration, the report shall include the information specified in 40 CFR 63.9(h)(2) and 63.7545(e).

d. In addition to the information required by 40 CFR 63.9(h)(2), the notification of compliance status must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

i. "This facility complies with the requirements in 40 CFR 63.7540(a)(10) to conduct an annual or biennial tune-up, as applicable, of each unit."

ii. "This facility has had an energy assessment performed according to 40 CFR 63.7530(e)."

iii. "No secondary materials that are solid waste were combusted in any affected unit."

e. Pursuant to 40 CFR 63.7530(e), the Permittee must include with the Notification of Compliance Status a signed certification that the energy assessment was completed according to Table 3 of 40 CFR Part 63, Subpart DDDDD and is an accurate depiction of the affected facility.

f. Pursuant to 40 CFR 63.7530(d), the Permittee must submit a signed statement in the Notification of Compliance Status report that indicates a tune-up was completed on each existing unit firing natural gas with a heat input capacity of less than 10 million Btu per hour.

5.11 Source-Wide Operational Flexibility/Anticipated Operating Scenarios

No source-wide operational flexibility/anticipated operating scenarios have been established in this permit.

5.12 Source-Wide Compliance Procedures

Compliance Provisions for Condition 5.6.2(c) (adopted from FESOP 94120017):

a. Compliance with the lbs/3-hours limits in Condition 5.6.2(c) shall be demonstrated by using emission rate calculations for eight discrete 3-hour periods per day, with the first period beginning at midnight.

b. Compliance with the daily emission limits in Condition 5.6.2(c) shall be demonstrated by using emission rate calculations on a daily block basis (i.e., midnight to midnight).

c. The compliance calculations shall be the primary compliance method for determining compliance with the emission limits in Condition 5.6.2(c), except for the blast furnace casthouse baghouse and iron spout baghouse, for which stack testing shall be the primary means of determining compliance.

d. Total SO_2 emissions from an unit operating group for determination of compliance with the SO_2 limits in Condition 5.6.2(c) shall be the sum of the emissions resulting from the use of COG and fuel oil at the unit operating group, i.e.:

Lbs SO_2 per unit operating group = SO_2 emissions from fuel oil usage + SO_2 emissions from COG usage

Note: When FESOP Permit 94120017 was originally issued, the SO_2 emissions which would result from the use of blast furnace gas and natural gas in the unit operating groups were accounted for in the SO_2 limits of that permit. This was accomplished by lowering the permitted SO_2 from the SO_2 levels used for air quality modeling by an amount equal to the SO_2 which would have been emitted should the unit operating groups use blast furnace gas or natural gas continuously. The SO_2 emissions from blast furnace gas and natural gas were calculated using standard emission factors as found in AIRS Facility Subsystem, Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants, EPA Document Number EPA 450/4-90-003, and Compilation of Air Pollution Emission Factors, Vol. 1, Stationary Point and Other Sources, AP-42.

e. The SO_2 emissions attributable to fuel oil usage shall be calculated from the records required by the CAAPP permit for usage of fuel oil and the sulfur and heat content of oil (See Condition 5.9.4) and the following equation:

Lbs SO_2/period = gallons of oil burned per period x sulfur content in weight percent of the fuel oil used x density of the fuel oil used in pounds per gallon x 2.

f. The SO_2 emissions attributable to COG usage shall be calculated from the records required by the CAAPP permit for the amount of COG burned and the sulfur content of the COG (See Condition 5.9.1(e)) and the following equation:

Lbs SO_2/period = thousand standard cubic feet of COG burned per period x average H_2S content of the COG in grains per standard cubic foot for the period x 0.269.

g. Stack test measurement shall be the primary method of determining the compliance of the Blast Furnace Casthouse and Iron Spout Baghouse with the lbs/day limits in Condition 5.6.2(c). The secondary means of determining compliance shall be the following:

i. The SO_2 attributable to the Blast Furnace Casthouse Baghouse shall be calculated using an emission factor of 0.173 lbs SO_2 per ton of hot metal cast.

ii. The SO_2 attributable to the Iron Spout Baghouse shall be calculated using an emission factor of 0.0063 lbs SO_2 per ton of hot metal cast.

h. Compliance with the tons/yr limits in Condition 5.6.2(c)) shall be determined using a rolling total of 12 consecutive calendar months of data.

i. When fuel oil is used and data is not available for the fuel oil at the individual unit operating groups, the oil usage during such period shall be calculated from the data for total usage of oil apportioned among the individual operating groups using oil based on the relative heat inputs the unit operating group during that period.

j. Usage of COG shall be determined from data collected by the COG flow meters.

Note: For this purpose, data from flow meters for both desulfurized and undesulfirized COG may be used in accordance with Condition 5.9.1(e)(i).

k. The average H_2S content of COG for the lbs/3-hours compliance calculations shall be calculated using an arithmetic average of all available H_2S data during the 3-hour period that COG was burned. In the event that the H_2S monitoring system is unable to obtain a single reading for the 3-hour period, the H_2S content for that 3-hour period shall be obtained by one of the alternative methods specified in Condition 7.3.9(f) of this permit (i.e., manual sampling of H_2S content or determined by type of coal used during that period and previous recorded H_2S content when using this coal type).

For this purpose, data from H_2S monitoring systems for both desulfurized and undesulfurized COG, in accordance with Condition 5.9.1(e)(ii), shall be used as appropriate depending upon whether desulfurized or undesulfurized COG is being combustion.

l. The daily average H_2S content of COG for use in the lbs/day compliance calculations shall be calculated using an arithmetic average of all available hourly average H_2S content data for

that day, and at least data from 75% of the daily operating hours.

Note: For this purpose, data from the H_2S monitoring systems for both desulfurized and undesulfurized COG, in accordance with Condition 5.9.1(e)(ii).

5.13 General Procedures for Certain Permit Limits on Emissions

Pursuant to Sections 39.5(7)(b) and (p)(v) of the Act, these procedures are applicable for the emission limits in Conditions 7.1.6(b)(i) through (iv), 7.4.6(b) through (f), 7.5.6(c) through (g) and 7.6.6(a) through (e), which address the rates of emissions or "emission factors" (commonly in pounds/ton) and the annual emissions or "maximum emissions" (in tons/year) of certain emission units, as the Permittee determines compliance with these limits with "emission factors," using the common meaning of this term. In particular, notwithstanding the fact that the above listed conditions set "emission factor limits" or limits on the rates of emissions, for purposes of this condition, an "emission factor" is a set value for the mass of a pollutant emitted by a particular emission unit relative to the amount of material that is processed or handled by the unit, or in the case of lead, a set value for the mass of lead emissions for each hour that the particular unit operates, which value is used in the determination of the emissions of the unit.

Note: For the emission units (i.e., operations and processes) that are subject to the above emission limits, Conditions 7.1.9(h), 7.4.9(h)(vii) and (i), 7.5.9(f) and (g), and 7.6.9(c) require the Permittee to keep records for the emissions factors that it is using to determine compliance with these emission limits, along with records for the emissions of these units. The specific emission factors being used by the Permittee for the various subject units, based on information provided by the Permittee as of the date of issuance of this revised permit, are found in Attachment 3 of this permit.

a. The emission factors used by the Permittee to determine compliance with these emission limits shall not understate actual emissions.

b. Compliance with these emission limits shall be determined as follows. For terms that are expressed in pounds per ton or, for lead, pounds per hour (i.e., the same terms as the relevant emission factor), compliance shall be determined by comparison against the relevant emission factor for the unit and mode of operation, as applicable. For each annual limit, compliance shall be determined by comparison against the annual emissions of the unit, calculated as the product of the actual annual operation of the unit and the relevant emission factor. If more than one emission factor is needed to address the actual annual emissions of a unit, to address different modes of operation, the annual emissions of the unit shall be calculated as the sum of the annual emissions, calculated as above, for each mode of operation of the unit for which there is a different emission factor. If there are additional emissions that are not accounted

for by the established emission factor(s), these additional emissions shall also be included in the calculation of annual emissions.

c. The Permittee shall, at a minimum, review and, if necessary, update the relevant emission factors that it is using as follows, to assure that the emission factors that it uses to calculate emissions for purposes of determining compliance with these limits are appropriate, i.e., do not understate actual emissions.

i. For emission units that are subject to limits for which emission testing is required to be conducted by this permit, whenever such testing is conducted, relevant emission factors shall be reviewed based on the results of such testing and, if necessary, updated based on those results.

ii. For emission units that are subject to limits for which emission testing is not required to be conducted by this permit, the relevant emission factors shall be reviewed and, if necessary, updated on at least an annual basis, considering new information on emissions of such units that has become available, including revisions of USEPA's *Compilation of Air Pollutant Emission Factors*, AP-42, other information published by USEPA, information related to other emission units operated by U.S. Steel, information presented in specific papers and reports concerning the steel industry, and other salient information.

d. The Permittee shall comply with the following reporting requirements related to the emission factors that it is using to determine compliance with these emission limits:

i. If the Permittee updates the emission factors that it is using, as a result of its review of the relevant emission factors, as provided for by Condition 5.13(c)(i) or (ii), copies of the revised records for such emission factor(s) shall be submitted to the Illinois EPA in accordance with Condition 5.9.6(c)(ii).

ii. At the same time that it submits its Annual Emission Report, as addressed by Condition 5.10.2, the Permittee shall also submit a report confirming its review of relevant emission factors in accordance with Condition 5.13(c)(i) and (ii) during the previous year, which report shall, for each applicable emission limit, include an identification of the testing conducted during the previous year, if any, or a description of all new information that was considered, if any, and the findings and conclusion of its review of such information and any updates that it made to the emission factors that it uses, with explanation.

e. Upon written notification from the Illinois EPA or USEPA that it has determined one or more of the following, the Permittee shall conduct appropriate further review for the emission factor(s)

that are the subject of such notification and submit a written response to the Illinois EPA and, if applicable, USEPA within 45 days, which response may be accompanied by updates to those emission factor(s).

i. The Permittee's records for the applicable emission factor(s), as addressed by Condition 5.9.6(c)(ii) or 5.13(d)(i) do not contain adequate documentation for the selected emission factor(s).

ii. The Permittee's report pursuant to Condition 5.13(d)(ii) does not provide adequate explanation for the updates that were made to the emission factor(s).

iii. The emission factor(s) used by the Permittee do not appear to appropriately address a new mode of operation of the subject unit.

iv. There is new information, as described in or included with the notification, that appears pertinent that the Permittee has not considered in its review for the emission factor(s).

5.14 Source-wide State-Only Conditions

5.14.1 Permitted Emissions for Fees

Emission limitations are not set for the source for the purpose of permit fees. The Permittee shall pay the applicable fee pursuant to Section 39.5 of the Act.

6.0 CONDITIONS FOR EMISSIONS CONTROL PROGRAMS

This section is reserved for emissions control programs. As of the date of issuance of this permit, there are no such programs applicable to this source.

7.0 UNIT SPECIFIC CONDITIONS FOR SPECIFIC EMISSION UNITS

7.1 Material Handling and Processing Operations

7.1.1 Description

Coal handling systems:

The crusher is mainly used in the winter to break-up frozen chunks of coal to prepare the coal to be processed in the pulverizer.

There are two coal pulverizers. Only one pulverizer can be used at any one time. The remaining pulverizer is maintained as a backup unit. The pulverizers reduce the size of the coal to prepare it for the coking process. A baghouse controls the discharge outlets of the coal pulverizers.

Blast furnace raw material handling systems:

Raw materials such as coke, iron-bearing materials, and fluxes are charged to blast furnaces in the iron making process. The materials are charged in the top of the furnace from skip cars, which are filled in the stockhouse from conveyors or hoppers. Iron pellets and coke are screened prior to charging.

New Coke Conveyance System:

The new coke conveyor system transfers coke from Gateway Energy to US Steel to be used in the existing Blast Furnaces.

Steel making system:

Raw materials used in the BOFs and LMF are delivered to the facility by both truck and railcar. The trucks and railcars are either unloaded to the ground or directly into an underground feed hopper. Materials unloaded to the ground are placed in storage piles, or in super sacks, endloaders are used to transfer the materials from the storage piles or super sacks to the underground feed hopper. The underground feed hopper then feeds material onto BOF material transfer conveyor C-1. This material transfer is controlled by the Trackhopper Baghouse, this bag house empties back onto C-1 conveyor.

Materials added in the BOF and LMF are transferred from the underground feed hopper, by a conveyor system consisting of three conveyors (nos. C-1, C-2, and C-3) arranged in series. From conveyor C-3 the materials are offloaded into storage bins 1 thru 10, or a rotating hopper known as the lazy susan, or onto conveyor C-5. The storage bins unload materials to conveyor C-4, which transfers and off-loads the materials into the BOF feed hoppers for #1 vessel or #2 vessel. The lazy susan feeds directly into the BOFs Alloy transfer car. Conveyor C-5 transfers materials to the LMF material handling system. All operations carried out within this unit take place within

enclosed structures. The transfer from conveyors C-1 to C-2 and C-2 to C-3 are controlled by the Binfloor Baghouse, this bag house empties into Bin #2.

Materials are transferred from the BOF Binfloor to the LMF on conveyor C-5. This conveyor off-loads into storage bins which transfer to conveyor C-6. The emissions from the transfer from conveyor C-5 to C-6 are handled by Baghouse #1. Additional raw materials used in the LMF are transferred from the Tripper Conveyor to a set of storage bins. Emissions generated by loadout of the Tripper Conveyor are controlled by Baghouse #2.

Note: This narrative description is for informational purposes only and is not enforceable.

7.1.2 List of Emission Units and Air Pollution Control Equipment

Area	Emission Unit Description	Emission Control Equipment	Date Constructed
Coal Handling and Processing	Coal Crusher	None	Pre-1974
	Coal Pulverizers (2)	Baghouse	
	Conveyors	None	
Blast Furnace	Screens (3) • Two Coke • One Iron Pellet	None	Pre-1974
	Conveyors and Feed Hoppers	None	
	Stock House Storage Bins	None	
	New Coke Conveyance System • Conveyors and Hoppers • Day Bins	Baghouses	2009
Steelmaking	Dump Pit Conveyor	Trackhopper Baghouse	Pre-1974
	Conveyors and Storage Bins	Bin floor Baghouse	
	LMF Conveyors and Storage Bins	Baghouse #1	Prior to 1986

7.1.3 Applicable Provisions and Regulations

a. i. The "affected material handling operations" for the purpose of these unit-specific conditions, are the emission units described in Conditions 7.1.1 and 7.1.2.

ii. The "affected crushing operations" for the purpose of these unit-specific conditions, are the crusher and pulverizers described in Conditions 7.1.1 and 7.1.2.

iii. The "affected screening operations" for the purpose of these unit-specific conditions, are the iron

pellet and coke screens described in Conditions 7.1.1 and 7.1.2.

iv. The "affected transfer operations" for the purpose of these unit-specific conditions, are the conveyors, storage bins, new coke conveyance system and feed hoppers described in Conditions 7.1.1 and 7.1.2.

b. Pursuant to 35 IAC 212.316(b), the Permittee shall not cause or allow fugitive particulate matter emissions generated by the affected crushing and screening operations to exceed an opacity of 10 percent.

c. Pursuant to 35 IAC 212.316(f), the Permittee shall not cause or allow fugitive particulate matter emissions generated by the affected transfer operations to exceed an opacity of 20 percent.

d. Pursuant to 35 IAC 212.321(a), the Permittee shall not cause or allow the emission of particulate matter into the atmosphere in any one hour period from the new coke conveyor system or LMF conveyors and LMF storage bins for which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 2).

e. Pursuant to 35 IAC 212.322(a), the Permittee shall not cause or allow the emission of particulate matter into the atmosphere in any one hour period from any affected material handling operation for which construction or modification commenced prior to April 14, 1972*, which, either alone or in combination with the emission of particulate matter from all other similar process emission units at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (see also Attachment 2).

* The new coke conveyor system and LMF conveyors and LMF storage bins constructed after April 14, 1972, is not subject to 35 IAC 212.322.

f. Pursuant to 35 IAC 212.458(b)(7) and (c), the Permittee shall not cause or allow emissions of PM10, other than that of fugitive particulate matter, into the atmosphere from any affected material handling operation to exceed 0.01 gr/scf during any one hour period, except for this mass emission limit shall not apply to those emission units with no visible emissions other than that of fugitive particulate matter; however, if a stack test is performed, this subsection is not a defense to a finding of a violation of the mass emission limits contained in this condition.

7.1.4 Non-Applicability of Regulations of Concern

The emission limitations of 35 IAC 212.324 are not applicable to the affected material handling operations, as provided by 35 IAC 212.324(a)(3), because the affected operations are subject to standards in 35 IAC Part 212, Subpart R, "Primary and Fabricated Metal Products and Machinery Manufacture".

7.1.5 Control Requirements and Work Practices

a. The affected material handling operations shall be operated under the provisions of a fugitive particulate matter operating program consistent with the provisions of 35 IAC 212.309, 212.310 and 212.312 (see also Condition 5.3.2(a)) [35 IAC 212.309].

b. Pursuant to 35 IAC 212.307, material collected by control equipment on the affected material handling operations shall be handled in accordance with Condition 5.3.2(e).

c. For the air pollution control equipment on the affected operations, the Permittee shall comply with maintenance and repair requirements in 35 IAC 212.324(f), as follows, pursuant to 35 IAC 212.458(d):

The Permittee shall maintain and repair all air pollution control equipment in a manner that assures that the emission limits and standards in 35 IAC 212.458 shall be met at all times. Proper maintenance shall include the following minimum requirements:

i. Visual inspections of air pollution control equipment;

ii. Maintenance of an adequate inventory of spare parts; and

iii. Expeditious repairs, unless the emission unit is shutdown.

d. BACT/LAER requirements for the new coke conveyor system, from Permit 06070088:

i. PM and PM_{10} emissions from the day bins shall be controlled by [T1]:

A. Enclosure of the day bin so as to prevent visible fugitive emissions, as defined by 40 CFR 60.671.

B. Aspiration of the day bins or the enclosure in which they are enclosed to a control device, which device shall be operated in accordance with good air pollution control practice to

minimize emissions. For this purpose, the control device shall be a baghouse or other filtration type device unless the Permittee demonstrates and the Illinois EPA concurs that another type of control device is preferable due to considerations of operational safety.

ii. PM and PM_{10} emissions from the new coke conveyance system shall be controlled by enclosure so as to prevent visible fugitive emissions, as defined by 40 CFR 60.671 [T1].

iii. Emissions of PM and PM_{10} from the control devices for the new coke conveyance system shall not exceed 0.005 gr/dscf [T1].

Condition 7.1.5(d) represents the application of Best Available Control Technology and Lowest Achievable Emission Rate.

7.1.6 Production and Emission Limitations

a. Production and emission limits for the new coke conveyor system from Permit 06070088:

i. The new coke conveyance system shall not transfer more than 740,000 tons of coke per year [T1].

ii. The emissions from the new coke conveyance system shall not exceed 0.95 tons/year of PM and 0.45 tons/year of PM_{10} [T1].

iii. Compliance with the annual limits of Condition 7.1.6(a) shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

b. Emission limits for blast furnace and steel making material handling operations from Permit 95010001:

i. Emissions from Material HS and Deslagging Station shall not exceed the following limits [T1]:

Pollutant	Emission Factors (Lbs/Ton of steel)	Maximum Emissions (Tons/Yr)
PM	0.00355	6.35
PM_{10}	0.00355	6.35

ii. BOF Additive System (Trackhopper Baghouse) emissions shall not exceed the following limits [T1]:

Pollutant	Emission Factors (Lbs/Ton of steel)	Maximum Emissions (Tons/Yr)
PM	0.00032	0.57
PM_{10}	0.00032	0.57

iii. Flux conveyor & transfer points (Bin Floor Baghouse) emissions shall not exceed the following limits [T1]:

Pollutant	Emission Factors (Lbs/Ton of steel)	Maximum Emissions (Tons/Yr)
PM	0.0016	2.86
PM_{10}	0.0016	2.86

iv. Iron Pellet Screen emissions shall not exceed the following limits [T1]:

Pollutant	Emission Factors (Lbs/Ton Iron)	Maximum Emissions (Tons/Yr)
PM	0.00279	6.01
PM_{10}	0.00279	6.01

v. Compliance with the annual limits in Condition 7.1.6(b) shall be determined based on a calendar year [T1].

7.1.7 Testing Requirements

The following emission tests and opacity observations shall be conducted pursuant to Section 39.5.(7)(d) and (p) of the Act.

a. i. The Permittee shall measure the opacity from the affected crushing, screening and transfer operations unless prolonged weather conditions preclude scheduled observations. These observations shall be conducted by a qualified observer in accordance with Method 9, as further specified below, pursuant to Section 39.5(7)(d) of the Act.

A. This testing shall be conducted at least annually.

B. Upon written request by the Illinois EPA, such testing shall be conducted for specific affected operation(s) within 45 calendar days of the request or by the date agreed upon by the Illinois EPA, whichever is later. At least 30 days prior to the scheduled test date, the Permittee shall submit a detailed test plan to

the Illinois EPA, describing the manner of operation of the affected activity and all control measures that will be implemented during the testing. The results of the testing will be submitted within thirty calendar days of the completion of the tests.

ii. The duration of opacity observations for each test shall be at least 30 minutes (five 6-minute averages).

b. The Permittee shall test for opacity and PM/PM10 emissions from the baghouse for the coal pulverizers and either the trackhopper baghouse, bin floor baghouse or baghouse #1 as will be specified by the Illinois EPA within 30 days of receipt of the test protocol. These two tests shall be completed within 30 months of the effective date of this permit condition. The Permittee shall use the following methods:

Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2, 2A - H
Flue Gas Weight	Method 3, 3A - C
Moisture	Method 4
PM/PM_{10} as provided for by 35 IAC 212.108	Method 5, 201 or 201A

7.1.8 Monitoring Requirements

The Permittee shall perform the following inspections, pursuant to Section 39.5(7)(p)(ii) of the Act:

a. Affected material handling operations other than the new coke conveyance system.

The Permittee shall perform quarterly inspections of the control measures, while the affected material handling operations are in use. For purposes of this condition, all affected material means each type of material handled. Types of material are materials such as: 1) coal; 2) coke; 3) limestone; 4) iron pellets; 5) alloy materials; 6) desulfurization reagents; and 7) slag materials. These inspections shall, at a minimum, include the following:

i. Verification that control measures, including reliance on characteristics of materials, is being properly implemented. For conveyors, these inspections shall include, where applicable, verification that all covers, enclosures and dribble pans are present and in good working condition. For crushers, these inspections shall also include verifications for choke feeding.

ii. For the baghouses on the affected material handling operations - a check of differential pressure and

inspection of the dust removal system, compressed air system, bag condition, fan condition and structural components.

iii. As part of the inspections, the Permittee shall perform observations for visible emissions by Method 22. These observations shall be conducted during the operations of each activity for a minimum of 18 minutes, or for activities that operate on a batch basis, for a minimum of six consecutive batches or 18 minutes. If visible emissions are observed, the Permittee shall take corrective action within 2 hours to return the status of the operations to no visible emissions or observations of opacity by Method 9 shall be conducted. For the purpose of this condition, returning the status of operations to no visible emissions does not include, for any activity, temporary idling or the lack of operations between batches.

b. Affected new coke conveyance system

i. The Permittee shall conduct inspections of the new coke conveyor system on at least a monthly basis for the specific purpose of verifying that control measures required to control emissions from the new coke conveyor system are being properly implemented.

ii. These inspections shall include observation for the presence of visible emissions, performed in accordance with USEPA Method 22, from the conveyors and day bins.

7.1.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. The Permittee shall keep the following file(s) and log(s):

File(s) containing the following information for the affected material handling operations with supporting information:

i. Information related to the dust collection equipment associated with the affected operations, including design control efficiency or performance specifications and maximum design particulate matter emissions, gr/dscf.

ii. The maximum design capacity of each operation, (tons/hr).

b. For the air pollution control equipment on affected operations, the Permittee shall keep the following records

related to maintenance and repair, as required by 35 IAC 212.458(d):

i. Records of inventory of spare parts and documentation of inspections, maintenance, and repairs of all air pollution control equipment shall be kept in accordance with 35 IAC 212.324(f) [35 IAC 212.324(g)(1)].

ii. Records documenting any period during which any process emission unit was in operation when the air pollution control equipment was not in operation or was malfunctioning so as to cause an emissions level in excess of the emissions limitation. These records shall include documentation of causes for pollution control equipment not operating or such malfunction and shall state what corrective actions were taken and what repairs were made [35 IAC 212.324(g)(2)].

iii. A written record of the inventory of all spare parts not readily available from local suppliers shall be kept and updated [35 IAC 212.324(g)(3)].

c. The Permittee shall keep the written records required by 35 IAC 212.316(g)(1) as follows:

i. For fugitive particulate matter emission units subject to 35 IAC 212.316, records related to the application of control measures for compliance with the opacity limitations of 35 IAC 212.316, including submittals to the Illinois EPA an annual report containing a summary of the information in these records.

ii. These records shall include at least the information specified by 35 IAC 212.316(g)(2), as follows:

A. The name and address of the source;

B. The name and address of the owner and/or operator of the source;

C. A map or diagram showing the location of all emission units controlled;

D. For application of physical or chemical control agents: the name of the agent, application rate and frequency, and total quantity of agent, and, if diluted, percent of concentration, used each day; and

E. A log recording incidents when control measures were not used and a statement of explanation.

iii. These records shall be handled as follows:

A. Copies of all records required by 35 IAC 212.316 shall be submitted to the Illinois EPA within ten (10) working days after a written request by the Illinois EPA and shall be transmitted to the Illinois EPA by a company-designated person with authority to release such records [35 IAC 212.316(g)(3)].

B. The records required under 35 IAC 212.316 shall be kept and maintained for at least five (5) years at the source and be available for inspection and copying by Illinois EPA representatives during working hours [35 IAC 212.316(g)(4)].

d. The Permittee shall maintain records for:

i. The amount of coke handled by the new coke conveyor system (tons/month and tons/year).

ii. The amount of iron pellets screened (tons/month and tons/year).

e. The Permittee shall maintain the following records for the inspections required by Condition 7.1.8:

i. For the inspections required by Condition 7.1.8(a) for each affected material handling operation:

A. Date and time the inspection was performed and name(s) of inspection personnel.

B. The observed condition of the control measures for each affected operation, including the presence of any visible emissions or accumulations of dust in the vicinity of the operation.

C. A description of any maintenance or repair associated with established control measures that are recommended as a result of the inspection and a review of outstanding recommendations for maintenance or repair from previous inspection(s), i.e., whether recommended action has been taken, is yet to be performed or no longer appears to be required.

D. A summary of the observed implementation or status of actual control measures.

ii. For the inspections required by Condition 7.1.8(b) for the affected new coke conveyor system, pursuant to Permit 06070088:

A. The Permittee shall maintain a file, which shall be kept current, that contains the maximum operating capacity of the new coke conveyance system (tons/day).

B. 1. The Permittee shall keep inspection and maintenance log(s) or other records for the control measures associated with the new coke conveyance system, including enclosures and fabric filters.

2. These records shall include the following information for the inspections required by Condition 7.1.8(a) and (b):

I. Date and time the inspection was performed.

II. The observed condition of the control measures, including the presence of any visible emissions.

III. A description of any maintenance or repair associated with the control measures that are recommended as a result of the inspection and a review of outstanding recommendations for maintenance or repair from previous inspection(s), i.e., whether recommended action has been taken, is yet to be performed or no longer appears to be required.

f. In the operational logs or other records for the operation of the affected material handling operations for steelmaking, the Permittee shall include information confirming routine implementation of normal practices for unloading of materials into the receiving hopper and housekeeping practices for this hopper and information identifying departures from those practices, with description, explanation, and corrective actions taken.

g. The Permittee shall maintain records of the following for each incident when any affected material handling operations and the new coke conveyor system operate without control measures:

i. The date of the incident and identification of the operations that were involved.

ii. A description of the incident, including the control measures that were not present or implemented; the control measures that were present, if any; other control measures or mitigation measures that were

implemented, if any; and the magnitude of the PM emissions during the incident.

iii. The time at and means by which the incident was identified, e.g., scheduled inspection or observation by operating personnel.

iv. The length of time after the incident was identified that the operations continued to operate before control measures were in place or the operations were shutdown (to resume operation only after control measures were in place) and, if this time was more than one hour, an explanation why this time was not shorter, including a description of any mitigation measures that were implemented during the incident.

v. The estimated total duration of the incident, i.e., the total length of time that the operations ran without control measures and the estimated amount of coal handled during the incident.

vi. A discussion of the probable cause of the incident and any preventative measures taken.

vii. A discussion whether any applicable emission standards, as listed in Condition 7.1.3, may have been violated during the incident, with supporting explanation.

h. The Permittee shall maintain the following records for the new coke conveyor system and each other operation subject to limits on PM/PM_{10} emissions in Condition 7.1.6:

i. A file containing the emission factors used by the Permittee to determine emissions of each operation, with supporting documentation. These records shall be reviewed and updated by the Permittee as necessary to assure that the emission factors that it uses to determine emissions of the affected operations do not understate actual emissions. These records shall be prepared and copies sent to the Illinois EPA in accordance with Condition 5.9.6(c).

ii. Records for any periods of operation of such operations that are not otherwise addressed in the required records during which the established emission factor in Condition 7.1.9(f)(i) would understate actual emissions of such operation, with description of the period of operation and an estimate of the additional emissions during such period that would not be accounted for by the established factor, with supporting explanation and calculations.

iii. Records for the annual PM/PM_{10} emissions of each operation, based on operating data and appropriate emission factors for comparison to the limits in Conditions 7.1.6(b), with supporting documentation and calculations.

i. The Permittee shall keep records for all opacity measurements conducted in accordance with Method 9 that it conducts or that it orders to be conducted. For each occasion on which such measurements are made, these records shall include the identity of the observer, a description of the measurements that were made, the operating condition of the operations, the observed opacity, and copies of the raw data sheets for the measurements.

j. The Permittee shall keep copies of all tests performed on the affected material handling operations and new coke conveyor system.

7.1.10 Reporting Requirements

a. i. The Permittee shall submit quarterly and annual reports to the Illinois EPA in accordance with 35 IAC 212.316(g)(1) and (5) [35 IAC 212.316(g)].

ii. Pursuant to 35 IAC 212.324(g)(6), upon written request by the IEPA, a report shall be submitted to the IEPA for any period specified in the request stating the following: the dates during which any process emission unit was in operation when the air pollution control equipment was not in operation or was not operating properly, documentation of causes for pollution control equipment not operating or not operating properly, and a statement of what corrective actions were taken and what repairs were made.

iii. Pursuant to Permit 06070088 for the new coke conveyor system, the Permittee shall notify the Illinois EPA within 30 days of deviations from applicable emission standards or operating requirements that continue* for more than 24 hours.

* For this purpose, time shall be measured from the start of a particular event. The absence of a deviation for a short period shall not be considered to end the event if the deviation resumes. In such circumstances, the event shall be considered to continue until corrective actions are taken so that the deviation ceases or the Permittee takes the affected unit out of service for repairs.

b. i. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the Illinois EPA, Air

Compliance Section, within 30 days of deviations by the affected material handling operations and new coke conveyor system from applicable requirements as follows:

A. Requirements in Condition 7.1.3(b) through (f).

B. Requirements in Condition 7.1.5.

C. Requirements in Condition 7.1.6.

ii. All such deviations shall be summarized and reported as part of the semiannual monitoring report required by Condition 8.6.1.

iii. The Permittee shall notify the Illinois EPA, Air Compliance Section, of all other deviations from permit requirements as part of the semiannual monitoring reports required by Condition 8.6.1.

iv. All deviation reports described in Condition 7.1.11(b) above shall contain the following:

A. Date, time and duration of the deviation;

B. Description of the deviation;

C. Probable cause of the deviation; and

D. Any corrective actions or preventive measures taken.

7.1.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected material handling operations and new coke conveyor system.

7.1.12 Compliance Procedures

Compliance with the emission standards in Condition 7.1.3 and the operational/emission limits in Condition 7.1.6 is addressed by the testing requirements of Condition 7.1.7, inspection requirements of Condition 7.1.8 and recordkeeping requirements of Condition 7.1.9.

7.1.13 State-Only Conditions

State-only conditions are not being established.

7.2 Coke Production

7.2.1 Description

Two coke oven batteries (45 ovens each), dual collecting main by-product coke oven batteries, referred to as batteries A and B, are utilized at this iron and steel mill. Each is capable of processing 454,000 tons/year of coal. Potential emissions from these batteries consist of particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, volatile organic materials, and HAPs.

Topside:

Emission points include leaks from coke oven charging, lids, off takes, soaking and emergency flares. Coal is charged to the ovens through four charging port lids, on each oven, utilizing sequential charging with steam aspiration to the collecting mains. Each oven has two off takes to the collecting mains that duct raw coke oven gas from the coking process to the by-products plant (see Section 7.3 of this permit). Soaking occurs after the coking process is completed, when an oven is dampered off from the collecting mains and its off takes' standpipes are opened before beginning pushing. Each battery also has an emergency by-pass on the collecting main (one on each main, two per battery). In the event of an emergency which would lead to excess pressure in a main, e.g., loss of suction from the by-product plant, the by-pass opens. The raw coke oven gas is then combusted in the associated emergency flare.

Doors:

Emissions consist of leaks from coke oven doors. Each oven has two doors, with one on its push side and one on its coke side.

Pushing:

Once the coking cycle in an oven has been completed, the push and coke side doors are removed, respectively, by the pushing machine and coke-side door machines. A ram on the pushing machine pushes the coke out through a guide on the door machine. The coke falls through the guide, which is covered by a hood on the machine, and into the quench box. The emissions from oven pushing are controlled by the pushing system. This mobile control system consists of a venturi scrubber, mist eliminator and exhaust fan. The Permittee currently has two mobile scrubber cars for pushing (PCS cars #3 and #4). The quench box and car travel with this system to the coke quenching operation.

Coke Quenching:

In this operation, loads of hot coke from the ovens are quenched with water. There are two locations where quenching normally takes place. The primary is the West Quench Tower. This tower is equipped with a baffle system. The east quench station,

which is utilized as a backup for the West Tower, does not currently have a quench tower, however, the Permittee is currently engaged in a project to upgrade the quenching operations, adding a quench tower to the East Quench Station and replacing the conventional Quench Tower at the West Quench Station with a low emission quench tower (Construction Permit 08060026).

Underfiring:

Coke oven gas (COG) is combusted to generate the heat required to convert coal to coke. This COG would be treated by both by-products plant and, except during maintenance and outage, by the COG desulfurization system. Natural gas may also be added through the blending station in order to stabilize the heat content of the COG. Emissions from this unit occur at the main stacks of each battery and are mainly the by-products of combustion, including particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, and volatile organic materials.

Note: This narrative description is for informational purposes only and is not enforceable.

7.2.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Coke Oven Batteries "A" and "B"	Coke Oven Battery "A"	Battery "A" was rebuilt between 1979 and 1980	Emergency Bypass Flares
	Coke Oven Battery "B"	Battery "B" was rebuilt between 1981 and 1982	Emergency Bypass Flares
	2 Larry Cars		None
	2 Pushing/Quench Cars		Mobile Venturi Scrubber (PCS Cars #3 & #4)
	East Quench Station (backup)		Tower and Baffles (planned)
	West Quench Station		Tower and Baffles
	Coke Oven Underfiring (coke oven combustion stacks)		None

7.2.3 Applicable Provisions

a. The "affected coke oven operations" for the purpose of these unit-specific conditions, are the emission units and activities described in Conditions 7.2.1 and 7.2.2.

b. The affected coke oven operations are subject to 35 IAC 212.443. Certain provisions of this regulation are discussed further in this subsection.

c. i. The following affected coke oven operations are subject to 40 CFR Part 63, Subpart L Coke Oven Batteries: charging, doors, lids, off takes, collecting mains and bleeder stacks. The Permittee is complying with the so-called LAER track under this NESHAP, as provided for by 40 CFR 63.304.

ii. For affected coke oven operations, the Permittee shall comply with applicable provisions of the NESHAP, 40 CFR 63 Subpart A.

d. i. The following affected coke oven operations are subject to 40 CFR Part 63, Subpart CCCCC: pushing, soaking, quenching and battery underfiring stacks.

ii. For affected operations at the coke oven battery, the Permittee shall comply with applicable provisions of the NESHAP, 40 CFR 63 Subpart A as specified in Table 1 in 40 CFR 63 Subpart CCCCC.

7.2.3-1 Applicable Standards: Coke Oven Charging

a. 35 IAC 212.443(b)(1)(A)

No person shall cause or allow the emission of visible particulate matter from any coke oven charging operation, from the introduction of coal into the first charge port, as indicated by the first mechanical movement of the coal feeding mechanism on the larry car, to the replacement of the final charge port lid for more than a total of 125 seconds over 5 consecutive charges; provided however that 1 charge out of any 20 consecutive charges may be deemed an uncountable charge at the option of the operator.

Compliance with this limit shall be determined in accordance with the applicable procedures in 35 IAC 212.443(b)(1)(B) and Condition 7.2.12.

b. 40 CFR 63.304(b)(2)(iv)

Emissions to the atmosphere from coke oven charging shall not exceed 12 seconds of visible emissions per charge, as determined by the procedures in 40 CFR 63.309(d)(2).

c. Battery B

The aggregate of visible emissions from the charging of coke ovens at Battery B shall not exceed a total 55 seconds during any 5 consecutive charges [T1].

Note: This limit is the determination of LAER for charging for Battery B made in Construction Permit C808048.

7.2.3-2 Applicable Standards: Leaks from Doors

a. 35 IAC 212.443(d)

i. No person shall cause or allow visible emissions from more than 10 percent of all coke oven doors at any time. Compliance shall be determined by a one pass observation of all coke oven doors on any one battery.

ii. No person shall cause or allow the operation of a coke oven unless there is on the plant premises at all times an adequate inventory of spare coke oven doors and seals and unless there is a readily available coke oven door repair facility.

b. Battery B

At no time shall there be any visible emissions from more than 5 percent of the door areas on Battery B [T1].

Note: This limit is the determination of LAER for door leaks for Battery B was established in Construction Permit C808048.

c. 40 CFR 63.304(b)(3)(ii)

3.3 percent leaking coke oven doors for each by-product coke oven battery not subject to the emission limitation 40 CFR 63.304(b)(3)(i), as determined by the procedures in 40 CFR 63.309(d)(1).

7.2.3-3 Applicable Standards: Leaks from Lids

a. 35 IAC 212.443(e)

No person shall cause or allow visible emissions from more than 5 percent of all coke oven lids at any time. Compliance shall be determined by a one pass observation of all coke oven lids.

b. Battery B

There shall be no visible emissions from more than 1 percent of the charging ports or lids [T1].

Note: This limit is the determination of LAER for lid leaks for Battery B made in Construction Permit C808048.

c. 40 CFR 63.304(b)(2)(ii)

0.4 percent leaking topside port lids, as determined by the procedures in 40 CFR 63.309(d)(1).

7.2.3-4 Applicable Standards: Leaks from Off Takes

a. 35 IAC 212.443(f)

No person shall cause or allow visible emissions from more than 10 percent of all coke oven off take piping at any time. Compliance shall be determined by a one pass observation of all coke oven off take piping.

b. Battery B

There shall be no visible emissions from more than 4 percent of the off take piping on the coke ovens on Battery B [T1].

Note: This limit is the determination of LAER for off take leaks for Battery B made in Construction Permit C808048.

c. 40 CFR 63.304(b)(2)(iii)

2.5 percent leaking off take system(s), as determined by the procedures in 40 CFR 63.309(d)(1).

7.2.3-5 Applicable Standards: Coke Oven Pushing

a. 35 IAC 212.443(c)(1)(A)

Emissions of uncaptured particulate matter from pushing operations shall not exceed an average of 20 percent opacity for 4 consecutive pushes considering the highest average of six consecutive readings in each push.

Compliance with this limit shall be determined in accordance with the procedures in 35 IAC 212.443(c)(1)(B) and Condition 7.2.12.

b. 35 IAC 212.443(c)(2)

i. The particulate emissions from control equipment used to control emissions during pushing operations shall not exceed 0.040 pounds per ton of coke pushed. Compliance shall be determined in accordance with the procedures set forth in 40 CFR Part 60, Appendix A, Methods 1-5, incorporated by reference in Section 212.113. Compliance shall be based on an arithmetic average of three runs (stack tests) and the

calculations shall be based on the duration of a push as defined in 35 IAC 212.443(c)(1)(A).

ii. The opacity of emissions from control equipment used to control emissions during pushing operations shall not exceed 20%. For a push of less than six minutes duration, the actual number of 15-second readings taken shall be averaged. Compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9, incorporated by reference in 35 IAC 212.113, Section 2.5 of 40 CFR Part 60, Appendix A, Method 9, incorporated by reference in 35 IAC 212.113, for data reduction shall not be used for pushes of less than six minutes duration [35 IAC 212.443(c)(2)(B)].

c. 40 CFR 63.7290(a)(4)

Particulate matter emissions to the atmosphere from the mobile scrubber car for pushing which captures emissions during travel shall not exceed 0.04 lb/ton of coke.

d. Battery B

Pushing emissions from Battery B shall be captured and cleaned by a single-spot, coke guide evacuated, enclosed quench car/scrubber car system which meets the following limitations [T1]:

i. The gas cleaning device shall be operated to meet 0.04 pounds of particulate matter per ton of coke pushed during the pushing operation.

ii. Visible emissions from the gas cleaning device outlet and uncaptured fugitive emissions shall not exceed 20 percent opacity.

Note: These limits are the determination of LAER for pushing emissions from Battery B made in Construction Permit C808048.

7.2.3-6 Applicable Standards: Coke Quenching

a. i. 40 CFR 63.7295(a)(1)(i)

For the quenching of hot coke, the Permittee must meet the following requirements of 40 CFR 63.7295(a)(1)(i):

The concentration of total dissolved solids (TDS) in the water used for quenching must not exceed 1,100 milligrams per liter (mg/L).

ii. 40 CFR 63.7295(a)(2)

The Permittee must use acceptable makeup water, as defined in 40 CFR 63.7352, as makeup water for quenching.

iii. 40 CFR 63.7295(b)

For each quench tower at a coke oven battery, the Permittee must meet each of the following requirements:

A. Pursuant to 40 CFR 63.7295(b)(1), each tower is equipped with baffles such that no more than 5 percent of the cross sectional area of the tower may be uncovered or open to the sky;

B. Pursuant to 40 CFR 63.7295(b)(2), baffles in each quench tower shall be washed once each day that the tower is used to quench coke, except as specified below:

1. Baffles in a quench tower are not required to be washed if the highest measured ambient temperature remains less than 30 degrees Fahrenheit throughout that day (24-hour period). If the measured ambient temperature rises to 30 degrees Fahrenheit or more during the day, the Permittee shall resume daily washing.

2. The Permittee shall continuously record the ambient temperature on days that the baffles were not washed.

C. Pursuant to 40 CFR 63.7295(b)(3) and (4), the Permittee shall comply with inspection and repair provisions (see Condition 7.2.8-3).

b. 35 IAC 212.443(h)(1)

All coke oven quench towers shall be equipped with grit arrestors or equipment of comparable effectiveness. Baffles shall cover 95 percent or more of the cross sectional area of the exhaust vent or stack and must be maintained. Quench water shall not include untreated coke by-product plant effluent. All water placed on the coke being quenched shall be quench water.

c. 35 IAC 212.443(h)(2)

Total dissolved solids concentrations in the quench water shall not exceed a weekly average of 1200 mg/L.

7.2.3-7 Applicable Standards: Combustion (Battery) Stack

a. 35 IAC 212.443(g)

i. No person shall cause or allow the emissions of particulate matter from a coke oven combustion stack to exceed 110 mg/dscm (0.05 gr/dscf); and

ii. No person shall cause or allow the emission of particulate matter from a coke oven combustion stack to exceed 30% opacity. Compliance shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9, incorporated by reference in 35 IAC 212.113. However, the opacity limit shall not apply to a coke oven combustion stack when a leak between any coke oven and the oven's vertical or crossover flues is being repaired, after pushing coke from the oven is completed, but before resumption of charging. The exemption from the opacity limit shall not exceed three (3) hours per oven repaired. The owner or operator shall keep written records identifying the oven repaired, and the date, time, and duration of all repair periods. These records shall be subject to the requirements of 35 IAC 212.324(g)(4) and (g)(5).

b. 40 CFR 63.7296

The Permittee must not discharge to the atmosphere any emissions from any battery stack at an existing by-product coke oven battery that exhibits opacity greater than the following applicable limits:

i. Daily average of 15 percent opacity for a battery on a normal coking cycle.

ii. Daily average of 20 percent opacity for a battery on batterywide extended coking.

c. Battery B

Pursuant to Construction Permit 82060043, non-sulfate particulate matter emissions from the battery stack serving Battery B shall not exceed 0.03 gr/dscf [T1].

7.2.3-8 Applicable Standards: Bypass/Bleeder Stack

a. i. Pursuant to 40 CFR 63.307(a)(1), the Permittee shall operate and properly maintain a bypass/bleeder stack flare system that is capable of controlling 120 percent of the normal gas flow generated by the affected battery.

ii. Coke oven emissions shall not be vented to the atmosphere through bypass/bleeder stacks, except

through the flare system or an alternative control device as described in 40 CFR 63.307(d) [40 CFR 63.307(a)(2)].

iii. Each flare installed pursuant to 40 CFR 63.307 shall meet the applicable requirements specified by 40 CFR 63.307(b) with compliance determined as specified by 40 CFR 63.309(h).

b. Pursuant to 40 CFR 63.307(c), the flare shall be operated with no visible emissions, as determined by the methods specified in 40 CFR 63.309(h)(1), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

7.2.4 Non-Applicability of Regulations of Concern

a. The emission limitations of 35 IAC 212.324 are not applicable to any emission unit subject to a specific emissions standard or limitation contained in 35 IAC Part 212 Subpart R, Primary and Fabricated Metal Products and Machinery Manufacture, pursuant to 35 IAC 212.324 (a)(3).

b. The affected coke oven operations are not fuel combustion emission units as defined in 35 IAC 211.2470 and therefore are not subject to the standards for fuel combustion emission units in 35 IAC Parts 212, 214, 216 and 217.

c. This permit is issued based on the affected coke oven operations not being subject to the applicable requirements of 35 IAC 219.301 because there is 85 percent reduction of uncontrolled organic material that would otherwise be emitted into atmosphere, pursuant to 35 IAC 219.302.

7.2.5-1 Work Practices: Soaking Plan (40 CFR 63.7294)

Pursuant to 40 CFR 63.7294(a), the Permittee shall operate the coke ovens pursuant to a written work practice plan for soaking, which includes the measures specified by 40 CFR 63.7294(a), including, if soaking emissions are caused by leaks from the collecting main, the Permittee shall take corrective actions to eliminate soaking emissions in accordance with the actions identified in the soaking plan. If soaking emissions are not caused by leaks, the Permittee must determine whether the soaking emissions are due to incomplete coking. If incomplete coking is the cause of the soaking emissions, the Permittee must put the oven back on the collecting main until it is completely coked or the Permittee must ignite the standpipe emissions as specified by 40 CFR 63.7294(a)(4) and (5).

7.2.5-2 Work Practice Plan (40 CFR 63.306)

a. Pursuant to 40 CFR 63.306(c), for affected units subject to the NESHAP, 40 CFR 63 Subpart L, the Permittee shall implement a written emission control Work Practice Plan for each affected coke oven battery designed to achieve

compliance with visible emission limitations for coke oven doors, topside port lids, off take systems, and charging operations.

b. Pursuant to 40 CFR 63.306(a)(1) and (b), the Permittee shall organize the work practice plan to indicate clearly which parts of the plan pertain to each emission point subject to visible emission standards under 40 CFR Subpart L. Each of the following provisions, at a minimum, shall be addressed in the plan in sufficient detail and with sufficient specificity to allow USEPA and the Illinois EPA to evaluate the plan for completeness and enforceability:

i. An initial and refresher training program for all coke plant operating personnel with responsibilities that impact emissions, including contractors, in job requirements related to emission control and the requirements of 40 CFR Subpart L, including work practice requirements, that includes all the elements specified by 40 CFR 63.306(b)(1). Contractors with responsibilities that impact emission control may be trained by the Permittee or by qualified contractor personnel; however, the Permittee shall ensure that the contractor training program complies with the requirements of 40 CFR 63.306(b)(1).

ii. Procedures for controlling emissions from coke oven doors on by-product coke oven batteries, including the elements specified by 40 CFR 63.306(b)(2).

iii. Procedures for controlling emissions from charging operations on by-product coke oven batteries, including the elements specified by 40 CFR 63.306(b)(3).

iv. Procedures for controlling emissions from topside port lids on by-product coke oven batteries, including the elements specified by 40 CFR 63.306(b)(4).

v. Procedures for controlling emissions from off take system(s) on by-product coke oven batteries, including the elements specified by 40 CFR 63.306(b)(5).

vi. Procedures for each emission point subject to visible emission limitations under 40 CFR 63 Subpart L for maintaining a daily record of the performance of plan requirements pertaining to the daily operations of the affected coke oven operations as defined in Condition 7.2.3(c) and its emission control equipment, including the elements specified by 40 CFR 63.306(b)(7).

vii. Any additional work practices or requirements specified by the USEPA or Illinois EPA pursuant to 40 CFR 63.306(d).

c. Pursuant to 40 CFR 63.306(c) the Permittee shall implement the provisions of the work practice plan pertaining to a particular emission point:

i. Following the second independent exceedance of the visible emission limitation for the emission point in any consecutive 6-month period, by no later than 3 days after receipt of written notification of the second such exceedance from the certified observer. For this purpose, the second exceedance is "independent" if the criteria of 40 CFR 63.306(c)(1)(i)(A), (B) or (C) are met.

ii. And continue to implement such plan provisions until the visible emission limitation for the emission point is achieved for 90 consecutive days. After the visible emission limitation for a particular emission point is achieved for 90 consecutive days, any exceedances prior to the beginning of the 90 days are not included in making the above determination of exceedances.

d. Revisions to the work practice plan shall be done in accordance with 40 CFR 63.306(d) and (a)(2).

e. The Work Practice Plan, as submitted by the Permittee on November 12, 1993, (which contains various training and standard operating procedures for the A & B coke oven batteries), is incorporated herein by reference. The document constitutes the formal work practice plan required by 40 CFR 306(a) for each coke oven battery, addressing work practices for achieving compliance with the visible emissions limitations of Subpart L.

Any future revision to the aforementioned plan made by the Permittee during the permit term is automatically incorporated by reference provided that said revision is not expressly disapproved, in writing, by the Illinois EPA within 30 days of receipt of said revision. In the event that the Illinois EPA notifies the Permittee of a deficiency with any revision to the plan, the Permittee shall be required to revise and resubmit the plan within 30 days of receipt of notification to address the deficiency [Section 39.5(7)(a) of the Act].

7.2.5-3 NESHAP Provisions for Startup, Shutdown and Malfunction

a. Pursuant to 40 CFR 63.7310(a) and (c), for affected coke oven operations subject to 40 CFR 63 Subpart CCCCC:

i. The Permittee shall comply with the emission limitations, work practice standards, and operating and maintenance requirements of 40 CFR 63 Subpart CCCCC, at all times except periods of startup, shutdown, and malfunction as defined at 40 CFR 63.2.

ii. The Permittee shall develop and implement a written startup, shutdown and malfunction plan according to the provisions in 40 CFR 63.6(e)(3).

b. Pursuant to 40 CFR 63.310, for affected coke oven operations subject to 40 CFR 63 Subpart L:

i. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall operate and maintain the affected coke oven operations, and associated pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions to the levels required by standards under 40 CFR Subpart L. Failure to adhere to the requirement of 40 CFR 63.310 shall not constitute a separate violation if a violation of an applicable performance or work practice standard has also occurred [40 CFR 63.310(a)].

ii. The Permittee shall develop and implement according to 40 CFR 63.310(c), a written startup, shutdown, and malfunction plan that describes procedures for operating the affected units, including associated air pollution control equipment, during a period of a startup, shutdown, or malfunction in a manner consistent with good air pollution control practices for minimizing emissions, and procedures for correcting malfunctioning process and air pollution control equipment as quickly as practicable [40 CFR 63.310(b)].

iii. Pursuant to 40 CFR 63.310(c), during a period of startup, shutdown, or malfunction the Permittee shall operate the battery (including associated air pollution control equipment) in accordance with the procedure specified in the startup, shutdown, and malfunction plan; and malfunctions shall be corrected as soon as practicable after their occurrence, in accordance with the plan.

iv. To satisfy the requirement for a startup, shutdown, and malfunction plan, the Permittee may use the standard operating procedures manual for the battery, provided the manual meets all the requirements of 40 CFR 63.310 and is made available for inspection at reasonable times when requested by the Administrator (USEPA) or Illinois EPA, as provided by 40 CFR 63.310(g).

v. The USEPA or Illinois EPA may require reasonable revisions to a startup, shutdown, and malfunction plan as provided by 40 CFR 63.310(h).

vi. Pursuant to 40 CR 63.310((i), if the Permittee demonstrates to the satisfaction of the Administrator (USEPA and Illinois EPA) that a startup, shutdown, or malfunction has occurred, then an observation occurring during such startup, shutdown, or malfunction shall not:

A. Constitute a violation of relevant requirements of 40 CFR 63 Subpart L;

B. Be used in any compliance determination under 40 CFR 63.309; or

C. Be considered for purposes of 40 CFR 63.306 (the work practice plan), until the Administrator (USEPA and Illinois EPA) has resolved the claim that a startup, shutdown, or malfunction has occurred, as further provided by 40 CFR 63.310(i)(3).

vii. The Permittee shall maintain all records related to startup, shutdown and malfunction, including internal reports which form the basis of each malfunction notification under 40 CFR 63.310(d) as required by 40 CFR 63.310(f).

7.2.5-4 Startup Authorization Pursuant to State Rule

Pursuant to 35 IAC 201.149 and Part 201, Subpart I, subject to the following terms and conditions, for the affected coke ovens, the Permittee is authorized to violate the applicable standards in 35 IAC 212.443 during startup. For this purpose a start-up is the resumption of normal production following the period when the battery has been idled.

Note: This authorization is provided because the Permittee has applied for such authorization in its CAAPP application, generally describing the efforts that will be used "...to minimize startup emissions, duration of individual starts, and frequency of startups".

a. This authorization does not relieve the Permittee from the continuing obligation to demonstrate that all reasonable efforts are made to minimize startup emissions, duration of individual startups and frequency of startups.

b. The Permittee shall conduct startup of the affected coke oven operations in accordance with the manufacturer's written instructions or other written procedures prepared by the Permittee and maintained at the source (see

Condition 7.2.9(g)(i)), that are specifically developed to minimize emissions from the startup.

c. The Permittee shall fulfill applicable recordkeeping of Condition 7.2.9(g).

d. The Permittee shall fulfill applicable reporting of Condition 5.10.5-1.

e. As provided by 35 IAC 201.265, an authorization in a permit for excess emissions during startup does not shield a Permittee from enforcement for any violation of applicable emission standard(s) that occurs during startup and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

7.2.5-5 Malfunction and Breakdown Authorization Pursuant to State Rule

a. Pursuant to 35 IAC 201.149 and Part 201, Subpart I, subject to the following terms and conditions, the Permittee is authorized to continue operation of the affected coke oven batteries in excess of the applicable state standards in 35 IAC 212.443 in the event of a malfunction or breakdown.

Note: This authorization is provided because the Permittee applied for such authorization in its CAAPP application, generally explaining why such continued operation would be required to prevent injury to personnel or severe damage to equipment, and describing the measures that will be taken to minimize emissions from any malfunctions and breakdowns.

i. This authorization only allows such continued operation as necessary to prevent injury to personnel or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee.

ii. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall repair the responsible affected coke oven operations or other responsible equipment and/or re-establish the applicable control practices (e.g., the rail system for quench car).

iii. The Permittee shall fulfill the applicable recordkeeping and reporting requirements of Conditions 7.2.9(h) and Condition 5.10.5-2, respectively. For these purposes, time shall be measured from the start of a particular incident. The absence of excess emissions for a short period shall not be considered to end the incident if excess emissions resume.

iv. Following notification to the Illinois EPA (see Condition 5.10.5-2(a)(i))of a malfunction or breakdown with excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident.

v. This authorization does not relieve the Permittee from the continuing obligation to minimize excess emissions during malfunction or breakdown. As provided by 35 IAC 201.265, an authorization in a permit for continued operation with excess emissions during malfunction and breakdown does not shield the Permittee from enforcement for any such violation and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

b. During the period when only one quench station is available (i.e., the other quench station is not operable because of construction work on a new quench tower) or there is a malfunction or breakdown preventing hot coke from being moved to a tower-equipped quench station (e.g., rail line malfunction), the Permittee is authorized to continue operation of the coke ovens with emergency quenching, i.e., quenching without a quench tower or at a quench station that is experiencing a malfunction or breakdown (see Condition 7.2.5-5).

7.2.6 Production and Emission Limitations

a. i. The amount of coal charged to the affected Battery "B" shall not exceed 454,000 tons per year [Construction Permit C808048].

b. i. Emissions of PM from the mobile scrubber cars for pushing shall not exceed 4.2 lb/hr and 18.3 t/yr [T1].

Compliance with annual limits shall be determined from a running total of 12 months of data [Construction Permit 88070071].

ii. Spare cars, parts inventories and maintenance practices shall be maintained and implemented by the Permittee for the pushing operations (quench cars and mobile scrubbers) consistent with good air pollution control practices [Permit 88070071].

c. i. Supplementary natural gas usage for the coke ovens shall not exceed 20 million scf/month and 123 million scf/yr [T1].

ii. Emissions attributable to the combustion of natural gas for the underfiring of the batteries shall not exceed the following limits. Compliance with the

annual limits shall be determined from a running total of 12 months of data [T1]:

	Emissions	
Pollutant	(Tons/Month)	(Tons/Year)
NO_x	2.80	17.22
CO	0.84	5.17
PM	0.12	0.73
PM_{10}	0.11	0.62
VOM	0.06	0.34
SO_2	0.01	0.04

iii. The above limitations were established in the Permit 04110018.

d. i. Once shakedown of the new quench tower on the West Quench Station has been completed, the Permittee shall use the West Quench Station preferentially. For this purpose, on an annual basis*, excluding periods when the West Quench Station cannot be used due to malfunction or breakdown, the East Quench Station shall not quench more than: 5 percent of the total number of quenches or 15,000 tons of coke, whichever is greater, not to exceed 30,000 tons of coke per year.

* This limit shall apply for the 12 month period from July 1 of one year through June 30 of the following year. This limit shall also apply for the initial 12 months following shakedown of the West Quench Station with new quench tower.

ii. Shakedown of each affected quench tower shall be completed within 180 days of the initial quench with each tower.

iii. The above limitations were established in the Permit 08060026.

7.2.7-1 Emission Testing for Coke Oven Pushing

a. Testing requirements established by 40 CFR Part 63 Subpart CCCCC:

i. Pursuant to 40 CFR 63.7321, for each control device subject to an emission limit for particulate matter in 40 CFR 63.7290(a), the Permittee must conduct performance tests no less frequently than twice (at mid-term and renewal) during each term of the CAAPP permit (i.e., every 30 months).

ii. The Permittee must conduct each performance test according to the following requirements in 40 CFR 63.7322.

A. To determine compliance with a process-weighted mass rate of particulate matter (lb/ton of coke) from a control device applied to pushing emissions where a cokeside shed is not used, follow these test methods and procedures to determine the concentration of particulate matter according to the following test methods in Appendix A to 40 CFR Part 60:

1. Method 1 to select sampling port locations and the number of traverse points. Sampling sites must be located at the outlet of the control device and prior to any releases to the atmosphere.

2. Method 2, 2F, or 2G to determine the volumetric flow rate of the stack gas.

3. Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.

4. Method 4 to determine the moisture content of the stack gas.

5. Method 5 or 5D, as applicable, to determine the concentration of front half particulate matter in the stack gas.

B. During each particulate matter test run, sample only during periods of actual pushing when the capture system fan and control device are engaged. Collect a minimum sample volume of 30 dry standard cubic feet of gas during each test run. Three valid test runs are needed to comprise a performance test. Each run must start at the beginning of a push and finish at the end of a push (*i.e.*, sample for an integral number of pushes).

C. Determine the total combined weight in tons of coke pushed during the duration of each test run according to the procedures in the Permittee's source test plan for calculating coke yield from the quantity of coal charged to an individual oven.

D. Compute the process-weighted mass emissions (E_p) for each test run using the following equation:

Where:

E_p = Process weighted mass emissions of particulate matter, lb/ton;

C = Concentration of particulate matter, gr/dscf;

Q = Volumetric flow rate of stack gas, dscf/hr;

T = Total time during a run that a sample is withdrawn from the stack during pushing, hr;

P = Total amount of coke pushed during the test run, tons; and

K = Conversion factor, 7,000 gr/lb.

b. Testing requirements to address 35 IAC 212.443(c)(2)

If the PM emissions measured during the emissions testing conducted pursuant to Condition 7.2.7-1(a) are more than 0.036 lb/ton, the Permittee shall conduct a follow-up test between 12 and 18 months after such test, unless subsequent emission testing conducted in the 12 month period following such test shows PM emissions are no more than 0.030 lb/ton.

7.2.7-2 Testing Requirements for Coke Quenching

a. Requirements of 40 CFR Part 63 Subpart CCCCC

i. Pursuant to 40 CFR 63.7333(f), the Permittee shall sample and analyze quench water for total dissolved solids on at least a weekly basis in accordance with the procedures specified by 40 CFR 63.7325(a).

ii. If the Permittee elects to comply with the TDS limit for quench water in 40 CFR 63.7295(a)(1)(i), the Permittee must conduct each performance test that applies to the affected quenching operations according to the following conditions in 40 CFR 63.7325(a)(1) and (2):

A. Take the quench water sample from a location that provides a representative sample of the quench water as applied to the coke (e.g., from the header that feeds water to the quench tower reservoirs). Conduct sampling under normal and representative operating conditions.

B. Determine the TDS concentration of the sample using Method 160.1 in 40 CFR part 136.3 (see residue-filterable"), except that you must dry the total filterable residue at 103 to 105°C instead of 180°C.

b. Requirements of 35 IAC 212.443(h)

i. Pursuant to 35 IAC 212.443(h)(3), the quench water shall be sampled for total dissolved solids concentrations in accordance with the methods specified in Standard Methods for the Examination of Water and Wastewater, Section 209C, "Total Filterable Residue Dried at 103-105°C" 15th Edition, 1980, incorporated by reference in 35 IAC 212.113. Analyses shall be performed on grab samples of the quench water as applied to the coke in accordance with the sampling schedule in Condition 7.2.12(c).

ii. If the quench station is not used during any given calendar week, the grab samples for that quench station need not be analyzed.

c. Testing requirements for West Quench Station from Permit 08060026

Within two years after initial startup of the West Quench Station with low emission quench tower, the Permittee shall have emission test(s) conducted for this quench station at its expense as follows:

i. The emissions test(s) shall be designed to measure the PM, PM_{10}, and $PM_{2.5}$ emission rates (lb/ton coke) from the quench tower under conditions that are representative of the maximum emissions as the station is normally operated.

ii. The Permittee shall install any facilities necessary to accommodate this emissions testing.

iii. The following methods and procedures shall be used for testing emissions of PM unless other method(s) are approved by the Illinois EPA as part of its review of the test plan.

A. The following USEPA Test Methods:

Refer to 40 CFR 60, Appendix A for USEPA test methods and www.epa.gov/ttn/emc/prelim.html for other test methods.

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
PM	USEPA Method 5

B. Testing for emissions of filterable and condensable PM_{10} shall be conducted using an appropriate Test Method developed by USEPA, e.g., Method 201/201A or Other Test Method (OTM) 27 and Method 202 or OTM 28, or a Reference Method proposed by USEPA, subject to review by the Illinois EPA as part of the review of the test plan.

C. Testing for emissions of filterable $PM_{2.5}$ shall be conducted using an applicable Reference Method, as adopted by USEPA in 40 CFR Part 51, Appendix M, or in 40 CFR Part 60, Appendix A. If USEPA has not adopted a Reference Method for testing of filterable $PM_{2.5}$ when testing must be performed, testing for filterable $PM_{2.5}$ shall be conducted using an appropriate Test Method developed by USEPA, e.g., OTM 27, or a Reference Method proposed by USEPA, subject to review by the Illinois EPA as part of the review of the test plan.

iv. For this emission testing, test notification and reporting shall be done by the Permittee in accordance with Conditions 8.6.2 and 8.6.3 of this permit.

7.2.7-3 Compliance Demonstrations and Emission Testing for Coke Oven Underfiring (combustion stacks)

a. For compliance demonstration with opacity limits, the Permittee must conduct each performance test that applies to the affected operations according to the following requirements in 40 CFR 63.7324(b):

To determine compliance with the daily average opacity limit for stacks of 15 percent for a by-product coke oven battery on a normal coking cycle or 20 percent for a by-product coke oven battery on batterywide extended coking, follow the test methods and procedures outlined below:

i. Using the continuous opacity monitoring system (COMS) required in 40 CFR 63.7330(e), measure and record the

opacity of emissions from each battery stack for a 24-hour period.

ii. Reduce the monitoring data to hourly averages as specified in 40 CFR 63.8(g)(2).

iii. Compute and record the 24-hour (daily) average of the COMS data.

b. Pursuant to Sections 39.5(7)(d) and (p) of the Act, the Permittee shall conduct emission tests for each coke oven combustion stack under conditions that are representative of maximum emissions as follows:

i. Testing for PM emissions (filterable PM from Battery A and filterable and filterable non-sulfate PM from Battery B) shall be conducted as follows:

A. Initial testing shall be conducted within 24 months of the effective date of this permit condition.

B. Thereafter, emission testing shall be repeated in 30 months, unless the PM emission rate measured from both stacks during the previous testing is less than 0.040 gr/dscf for filterable PM and less than 0.024 gr/dscf for filterable non-sulfate PM from the combustion stack on Battery B, in which case testing shall be repeated in 60 months.

C. Testing shall also be conducted for combustion stack(s) upon written request from the Illinois EPA as specified in the request. This testing shall be completed within 90 days of the date of the request or such later date agreed to by the Illinois EPA.

ii. In conjunction with the initial testing for PM emissions required by Condition 7.2.7-3(b)(i)(A), the Permittee shall also test for CO and NO_x from one of the coke oven combustion stacks, as selected by the Illinois EPA.

iii. The following USEPA test methods shall be used for testing of emissions, unless another USEPA test method is approved by the Illinois EPA. Refer to 40 CFR 51, Appendix M, and 40 CFR 60, Appendix A, for test methods.

Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3
Moisture	Method 4

PM (filterable)	Method 5
PM (non-sulfate filterable)	Method 5F
CO	Method 10
NO_x	Method 7 or 7E

iv. For this emission testing, test notification and reporting shall be done by the Permittee in accordance with Conditions 8.6.2 and 8.6.3 of this permit.

v. With the report for emission testing, the Permittee shall also provide a summary of the opacity data monitored during the period of testing (6 minute averages and daily average), the sulfur content of COG being combusted during the period of testing, as measured by the monitoring system(s) for COG, the PM content of COG combusted during the period of testing, and data for the firing rate of the battery during testing (mmBtu or SCF of COG and natural gas per hour) for each test run, with supporting calculations.

c. Testing conditions above are established pursuant to Sections 39.5(7)(d) and (p) of the Act.

7.2.8-1 Monitoring Requirements for Charging, Doors, Lids and Off Takes

a. i. Pursuant to 40 CFR 63.309(a), daily performance tests shall be conducted by a certified observer each day, 7 days per week for the affected battery, as specified by 40 CFR 63.309, the results of which shall be used in accordance with procedures specified in 40 CFR 63 Subpart L to determine compliance with each of the applicable visible emission limitations for coke oven doors, topside port lids, off take systems, and charging operations in 40 CFR 63 Subpart L.

ii. The Permittee shall enter into a contract providing for the inspections and performance tests required under the NESHAP, 40 CFR 63 Subpart L, to be performed by a Method 303 certified observer. The inspections and performance tests will be conducted at the expense of the Permittee, during the period that the USEPA is the implementing agency [40 CFR 63.309(a)(5)(ii)].

A. The certified observer shall conduct daily performance tests according to the requirements specified in 40 CFR 63.309(c).

B. Pursuant to 40 CFR 63.309(c)(3), upon request of the certified observer the Permittee shall demonstrate pursuant to Reference Method 303 the accuracy of the pressure measurement device

for the collecting mains and shall not adjust the pressure to a level below the range of normal operation during or prior to the inspection.

C. In no case shall the owner or operator knowingly block a coke oven door, or any portion of a door for the purpose of concealing emissions or preventing observations by the certified observer, as prohibited by 40 CFR 63.309(c)(6).

D. 1. Pursuant to 40 CFR 63.309(e), the certified observer shall make available to the implementing agency, as well as to the Permittee, a copy of the daily inspection results by the end of the day and shall make available the calculated rolling average for each emission point to the Permittee as soon as practicable following each performance test. The information provided by the certified observer is not a compliance determination. For the purposes of notifying the owner or operator of the results obtained by a certified observer, the person does not have to be certified.

2. Pursuant to 40 CFR 63.306(d)(3), if the certified observer calculates that a second exceedance (or if applicable, a second independent exceedance) has occurred, the certified observer shall notify the Permittee. No later than 10 days after receipt of such notification, the Permittee shall notify the administrator (USEPA) and Illinois EPA of any finding of whether work practices are related to the cause or solution of the problem.

Note: Pursuant to 40 CFR 63.306(d)(6), the reviewing authority (USEPA) may disapprove the submitted finding if it determines that a revised work practice plan is needed to prevent exceedances of the applicable visible emission limitations.

iii. Pursuant to 40 CFR 63.309(f), compliance with the NESHAP, 40 CFR 63 Subpart L shall not be determined more often than the schedule provided for performance tests under 40 CFR 63.309. If additional valid emissions observations are obtained (or in the case

of charging, valid sets of emission observations), the arithmetic average of all valid values (or valid sets of values) obtained during the day shall be used in any computations performed to determine compliance under 40 CFR 63.309(d) or determinations under 40 CFR 63.306.

iv. Pursuant to 40 CFR 63.309(i), no observations obtained during any program for training or for certifying observers under 40 CFR 63 Subpart L shall be used to determine compliance with the requirements of 40 CFR 63 Subpart L or any other federally enforceable standard.

b. Pursuant to 40 CFR 63.308, for the collecting mains, the Permittee shall conduct daily inspections for leaks and promptly repair any leaks as specified by 40 CFR 63.308(a) through (d).

c. Pursuant to Section 39.5(7)(d) of the Act, the Permittee shall have daily inspections conducted for charging and doors, lids and off takes to confirm compliance by Battery A with 35 IAC 212.443(b), (d), (e) and (f) and by Battery B with LAER limit (See Conditions 7.2.3-1(c), 7.2.3-2(b), 7.2.3-3(b), and 7.2.3-4(b)). These inspections shall be conducted in accordance with applicable procedures in Condition 7.2.12(a). These inspections may be coordinated with the daily inspections required by the NESHAP, provided that appropriate observations are made and collected to address these applicable limits under state rule and permit.

7.2.8-2 Monitoring Requirements for Pushing

a. Pursuant to 40 CFR 63.7330(b), For each venturi scrubber applied to pushing emissions, the Permittee must at all times monitor the pressure drop and water flow rate using a CPMS according to the following requirements:

Pursuant to 40 CFR 63.7331(e), operate, and maintain CPMS to measure and record the pressure drop across the scrubber and scrubber water flow rate during each push according to the requirements in the site specific monitoring plan as well as the following:

i. Each CPMS must complete a measurement at least once per push [40 CFR 63.7331(e)(1)];

ii. Each CPMS must produce valid data for all pushes [40 CFR 63.7331(e)(2)]; and

iii. Each CPMS must determine and record the daily (24-hour) average of all recorded readings [40 CFR 63.7331(e)(3)].

b. Pursuant to 40 CFR 63.7330(d), For each capture system applied to pushing emissions, the Permittee must at all times operate and maintain a device to measure the fan RPM.

c. Pursuant to 40 CFR 63.7331(b), the Permittee must maintain and make available for inspection upon request by the Illinois EPA and USEPA a site-specific monitoring plan for each Continuous Parameter Monitoring System (CPMS) that addresses the following requirements:

i. Installation of the CPMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.*, on or downstream of the last control device) [40 CFR 63.7331(b)(1)];

ii. Performance and equipment specifications for the sample interface, the parametric signal analyzer, and the data collection and reduction system [40 CFR 63.7331(b)(2)];

iii. Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations) [40 CFR 63.7331(b)(3)];

iv. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1), (3), (4)(ii), (7), and (8) [40 CFR 63.7331(b)(4)];

v. Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d) [40 CFR 63.7331(b)(5)]; and

vi. Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i) [40 CFR 63.7331(b)(6)].

d. Pursuant to 40 CFR 63.7331(d), the Permittee must operate and maintain the CPMS in continuous operation according to the site-specific monitoring plan.

e. Pursuant to 40 CFR 63.7332(a), except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), you must monitor continuously (or collect data at all required intervals) at all times the affected source is operating.

f. Pursuant to 40 CFR 63.7332(b), the Permittee may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels, or in fulfilling a minimum data availability requirement, if applicable. You must use all the data collected during all other periods in assessing compliance. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitor to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

g. Pursuant to 40 CFR 63.7333(d)(3)(ii), check the fan RPM at least every 8 hours to verify the daily average fan RPM is at or above the minimum level in Condition 7.2.8-2(h) and recording the results of each check.

h. i. Pursuant to 40 CFR 63.7290(b)(1), for each venturi scrubber applied to pushing emissions, the Permittee must maintain the daily average pressure drop and scrubber water flow rate at or above (no lower than) the following minimum levels established as the site-specific operating limits during testing:

PCS Car	Scrubber Water Flow Rate, gal/min	Pressure Drop, in. wc
#3	860	37
#4	607	33

ii. Pursuant to 40 CFR 63.7290(b)(3)(ii), for each capture system the Permittee must maintain the daily average fan revolutions per minute (RPM) at or above (no lower than) the minimum level established as the site-specific operating limits during testing:

PCS Car	RPM
#3	1650
#4	1743

iii. Pursuant to 40 CFR 63.7323 (e)(1) through (3), the Permittee may change the operating limit for a venturi scrubber, capture system, or mobile control device that captures emissions during pushing if the Permittee meets the following requirements described below:

A. Submit a written notification to the Illinois EPA of Permittee's request to conduct a new performance test to revise the operating limit.

B. Conduct a performance test to demonstrate that emissions of particulate matter from the

control device do not exceed the applicable limit in 40 CFR 63.7290(a).

C. Establish revised operating limits according to the applicable procedures in 40 CFR 63.7323.

i. The Permittee shall comply with the work practice standards for fugitive pushing emissions as specified by 40 CFR 63.7291. In particular:

i. The Permittee shall observe and record the opacity of fugitive pushing emissions as required by 40 CFR 63.7291(a)(1), (a)(2), (a)(3) and (a)(4).

ii. The Permittee shall undertake corrective action(s) in the event that the opacity of fugitive pushing emissions exceeds the applicable limit, as required by 40 CFR 63.7291(a)(5) through (a)(7).

iii. Pursuant to 40 CFR 63.7291(b), the Permittee may request to use an alternative to the work practice standards in 40 CFR 63.7291(a) using the procedure provided in 40 CFR 63.6(g).

j. For each by-product coke oven battery with vertical flues subject to the work practice standards for fugitive pushing emissions in 40 CFR 63.7291(a), the Permittee must demonstrate continuous compliance according to the following requirements of 40 CFR 63.7334(a)(1) through (8):

i. The Permittee shall observe and record the opacity of fugitive emissions for four consecutive pushes per operating day, except the Permittee may make fewer or non-consecutive observations as permitted by 40 CFR 63.7291(a)(3). The Permittee shall maintain records of the pushing schedule for each oven and records indicating the legitimate operational reason for any change in the pushing schedule according to 40 CFR 63.7291(a)(4).

ii. The Permittee shall observe and record the opacity of fugitive emissions from each oven in a battery at least once every 90 days. If an oven cannot be observed during a 90-day period, the Permittee shall observe and record the opacity of the first push of that oven following the close of the 90-day period that can be read in accordance with the procedures in 40 CFR 63.7334(a)(1) through (8).

iii. The Permittee shall make all observations and calculations for opacity observations of fugitive pushing emissions in accordance with Method 9 in appendix A to 40 CFR Part 60 using a Method 9

certified observer unless the Permittee has an approved alternative procedure under 40 CFR 63.7334(a)(7).

iv. The Permittee shall record pushing opacity observations at 15-second intervals as required in section 2.4 of Method 9 Appendix A to 40 CFR Part 60. The following requirements do not apply: (section 2.4 of Method 9) for a minimum of 24 observations; the data reduction requirements in (section 2.5 of Method 9); and obtaining at least 3 hours of observations (thirty 6-minute averages) to demonstrate initial compliance (40 CFR 63.6(h)(5)(ii)(B)) does not apply.

v. If fewer than six but at least four 15-second observations can be made, the Permittee shall use the average of the total number of observations to calculate average opacity for the push. Missing one or more observations during the push (*e.g.*, as the quench car passes behind a building) does not invalidate the observations before or after the interference for that push. However, a minimum of four 15-second readings must be made by the Permittee for a valid observation.

vi. The Permittee shall begin observations for a push at the first detectable movement of the coke mass. The Permittee shall end observations of a push when the quench car enters the quench tower.

A. For a battery without a cokeside shed, the Permittee shall observe fugitive pushing emissions from a position at least 10 meters from the quench car that provides an unobstructed view and avoids interferences from the topside of the battery. This may require the observer to be positioned at an angle to the quench car rather than perpendicular to it. Typical interferences for the observer to avoid include emissions from open standpipes and charging. Opacity of emissions shall be observed above the battery top with the sky as the background where possible. The Permittee shall record the oven number of any push not observed because of obstructions or interferences.

B. An observer may reposition after the push to observe emissions during travel if necessary.

vii. If it is infeasible to implement the procedures in 40 CFR 63.7334 (a)(1) through (6) for an oven due to physical obstructions, nighttime pushes, or other reasons, the Permittee may apply to an appropriate permitting authority (USEPA) for permission to use an alternative procedure. The application must provide a detailed explanation of why it is infeasible to use the procedures in 40 CFR 63.7334 (a)(1) through (6), identify the oven and battery numbers, and describe the alternative procedure. An alternative procedure must identify whether the coke in that oven is not completely coked, either before, during, or after an oven is pushed.

viii. For each oven observed that exceeds an opacity of 30 percent for any short battery, the Permittee must take corrective action and/or increase the coking time in accordance with 40 CFR 63.7291(a). The Permittee shall maintain records documenting conformance with the requirements in 40 CFR 63.7291(a).

k. Pursuant to Section 39.5(7)(d) of the Act, the Permittee shall have daily observations conducted for pushing to confirm compliance with 35 IAC 212.443(c)(1)(A) (Condition 7.2.3-5(a)). These observations shall be conducted in accordance with applicable procedures in Condition 7.2.12(b). These observations may be coordinated with the observations required by the NESHAP provided that appropriate observations are made and data collected to address the applicable standard under state rule. These observations shall also include, on a monthly basis, opacity observations for the stack of the mobile scrubber car.

l. For each coke oven battery with a capture system or control device applied to pushing emissions, the Permittee shall demonstrate continuous compliance with the operation and maintenance requirements in 40 CFR 63.7300(c) by meeting the following requirements outlined in 40 CFR 63.7335(b):

i. Making monthly inspections of capture systems according to 40 CFR 63.7300(c)(1) and recording all information needed to document conformance with these requirements; and

ii. Performing preventative maintenance for each control device according to 40 CFR 63.7300(c)(2) and recording all information needed to document conformance with these requirements.

7.2.8-3 Monitoring Requirements for Quenching

a. For each coke oven battery subject to the work practice standard for quenching in 40 CFR 63.7295(b), the Permittee must demonstrate continuous compliance according to the following requirements of 40 CFR 63.7334(e)(1) through (3):

i. Maintaining baffles in each quench tower such that no more than 5 percent of the cross-sectional area of the tower is uncovered or open to the sky as required in 40 CFR 63.7295(b)(1);

ii. Maintaining records that document conformance with the washing, inspection, and repair requirements in 40 CFR 63.7295(b)(2), including records of the ambient temperature on any day that the baffles were not washed; and

iii. Maintaining records of the source of makeup water to document conformance with the requirement for acceptable makeup water in 40 CFR 63.7295(a)(2).

b. Pursuant to 40 CFR 63.7295(b), for the quench tower, the Permittee shall perform inspections on at least a monthly basis for damaged or missing baffles and initiate repair or replacement within 30 days, which shall be completed as soon as practicable, as specified by 40 CFR 63.7295(b)(3) and (4).

7.2.8-4 Monitoring Requirements for Combustion Stacks

a. Pursuant to 40 CFR 63.7330(e), for each coke oven battery stack, the Permittee must operate and maintain a COMS to measure and record the opacity of emissions exiting each stack according to the requirements in 40 CFR 63.7331(j)(1) through (5) and the following below:

i. The Permittee must operate, and maintain each COMS according to the requirements in 40 CFR 63.8(e) and Performance Specification 1 in 40 CFR Part 60, Appendix B. The Permittee shall identify periods the COMS is out-of-control, including any periods that the COMS fails to pass a daily calibration drift assessment, quarterly performance audit, or annual zero alignment audit.

ii. The Permittee must conduct a performance evaluation of each COMS according to the requirements in 40 CFR 63.8 and Performance Specification 1 in Appendix B to 40 CFR Part 60.

iii. The Permittee must develop and implement a quality control program for operating and maintaining each

COMS according to the requirements in 40 CFR 63.8(d). At minimum, the quality control program must include a daily calibration drift assessment, quarterly performance audit, and an annual zero alignment audit of each COMS.

iv. Each COMS installed, operated and maintained by the Permittee must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period. The Permittee must reduce the COMS data as specified in 40 CFR 63.8(g)(2).

v. The Permittee must determine and record the hourly and daily (24-hour) average opacity according to the procedures in 40 CFR 63.7324(b) using all the 6-minute averages collected for periods during which the COMS is not out-of-control.

b. Pursuant to Sections 39.5(7)(d) and (p) of the Act, the Permittee shall also record 6-minute average opacity data from the COMS required by Condition 7.2.8-4(a).

7.2.8-5 Monitoring Requirements for Emergency By-pass Bleeder Stacks

Pursuant to 40 CFR 63.309(h)(1), for a flare installed to meet the requirements of 40 CFR 63.307(b) (see Condition 7.2.3-8(b)):

If any emergency by-pass bleeder stack flare operates more than 5 minutes (cumulative) during any 2 hour period, visible emissions observations shall be conducted by using Method 22 in Appendix A of 40 CFR Part 60.

7.2.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected coke production operations, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. 40 CFR 63, Subpart CCCCC (40 CFR 63.7334(d))

For each by-product coke oven battery subject to the work practice standard for soaking in 40 63.7294(a), the Permittee must demonstrate continuous compliance by maintaining records that document conformance with requirements in 40 CFR 63.7294(a)(1) through (5).

b. 40 CFR 63, Subpart CCCCC (40 CFR 63.7342 and 63.7343)

i. The Permittee shall keep the following records specified in 40 CFR 63.7342 (a)(1) through (3):

A. A copy of each notification and report that the Permittee submitted to comply with 40 CFR 63 Subpart CCCCC, including all documentation supporting any initial notification or notification of compliance status that the Permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).

B. The records in 40 CFR 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

C. Records of performance tests, performance evaluations, and opacity observations as required in 40 CFR 63.10(b)(2)(viii).

ii. For each COMS or CEMS, the Permittee shall keep the following records specified in 40 CFR 63.7342(b)(1) through (4):

A. Records described in 40 CFR 63.10(b)(2)(vi) through (xi).

B. Monitoring data for COMS during a performance evaluation as required in 40 CFR 63.6(h)(7)(i) and (ii).

C. Previous (that is, superseded) versions of the performance evaluation plan as required in 40 CFR 63.8(d)(3).

D. Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

iii. The Permittee shall keep the records in 40 CFR 63.6(h)(6) for visual observations [40 CFR 63.7342(c)].

iv. The Permittee shall keep the records required in 40 CFR 63.7333 through 63.7335 to show continuous compliance with each emission limitation, work practice standard, and operation and maintenance requirement that applies to the Permittee [40 CFR 63.7342(d)].

v. The Permittee shall keep its records in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1) [40 CFR 63.7343(a)].

vi. As specified in 40 CFR 63.10(b)(1), the Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record [40 CFR 63.7343(b)].

vii. The Permittee shall keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). The Permittee may keep the records offsite for the remaining 3 years [40 CFR 63.7343(c)].

c. 40 CFR 63, Subpart CCCCC (40 CFR 63.7326)

i. Pursuant to 40 CFR 63.7326(a)(2), For each venturi scrubber applied to pushing emissions, the Permittee shall have a record of the pressure drop and scrubber water flow rate measured during the performance test in accordance with 40 CFR 63.7323(a).

ii. Pursuant to 40 CFR 63.7326(a)(4)(iii), For each capture system applied to pushing emissions, the Permittee shall have a record of the fan RPM measured during the performance test in accordance with 40 CFR 63.7323(c)(3).

d. 40 CFR Part 63, Subpart L (40 CFR 63.311(f) and (g))

The Permittee shall maintain files of all required information in a permanent form suitable for inspection at an onsite location for at least 1 year and must thereafter be accessible within 3 working days to the Administrator for the time period specified in 40 CFR 70.6(a)(3)(ii)(B). Copies of the work practice plan developed under 40 CFR 63.306 and the startup, shutdown, and malfunction plan developed under 40 CFR 63.310 shall be kept onsite at all times. The Permittee shall maintain the following information:

i. A copy of the work practice plan required by 40 CFR 63.306 and any revision to the plan [40 CFR 63.311(f)(3)];

ii. If the Permittee is required under 40 CFR 63.306I to implement the provisions of a work practice plan for a particular emission point, the following records shall be maintained by the Permittee regarding the implementation of plan requirements for that emission point during the implementation period [40 CFR 63.311(f)(4)]:

A. Copies of all written and audiovisual materials used in the training, the dates of each class, the names of the participants in each class, and documentation that all appropriate personnel have successfully completed the training required under 40 CFR 63.306(b)(1);

B. The records required to be maintained by the plan provisions implementing 40 CFR 63.306(b)(7);

C. Records resulting from audits of the effectiveness of the work practice program for the particular emission point, as required under 40 CFR 63.306(b)(2)(i), 63.306(b)(3)(i), 63.306(b)(4)(i), or 63.306(b)(5)(i); and

D. If the plan provisions for coke oven doors must be implemented, records of the inventory of doors and jambs as required under 40 CFR 63.306(b)(2)(vi).

iii. The design drawings and engineering specifications for the bypass/bleeder stack flare system or approved alternative control device or system as required under 40 CFR 63.307 [40 CFR 63.311(f)(5)].

iv. Records specified in 40 CFR 63.310(f) regarding the basis of each malfunction notification [40 CFR 63.311(f)(6)].

v. Records required to be maintained and reports required to be filed with the Illinois EPA under Subpart L shall be made available in accordance with the requirements of 40 CFR 63.311(g) by the Permittee to the authorized collective bargaining representative of the employees at a coke oven battery, for inspection and copying.

A. Requests under 40 CFR 63.311(g) shall be submitted in writing, and shall identify the records or reports that are subject to the request with reasonable specificity;

B. The Permittee shall produce the reports for inspection and copying within a reasonable period of time, not to exceed 30 days. A reasonable fee may be charged for copying (except for the first copy of any document), which shall not exceed the copying fee charged by the Illinois EPA under the Act;

C. Nothing in 40 CFR 63.311(g) shall require the production for inspection or copying of any portion of a document that contains trade secrets or confidential business information that the Illinois EPA would be prohibited from disclosing to the public under the Act; and

D. The inspection or copying of a document under 40 CFR 63.311(g) shall not in any way affect any property right of the owner or operator in such document under laws for the protection of intellectual property, including the copyright laws.

e. Implementation of the good air pollution control practices, as required by Condition 7.2.5-3(b)(i), shall be supported by maintaining logs or other records for the implementation of operation practices and for maintenance activities performed by Permittee.

f. Records of the total annual coke production at batteries "A" and "B" (ton/yr) and separately for the Battery B [39.5(7)(b) of the Act].

g. Records for Startups of Affected coke ovens, pursuant to Section 39.5(7)(b) of the Act

i. The Permittee shall maintain startup procedures for each affected coke oven, as required by Condition 7.2.5-4(b).

ii. The Permittee shall maintain the following records for each startup of an affected coke oven:

A. Date, time and duration of the startup.

B. A description of the startup and reason(s) for the startup.

C. Whether a violation of an applicable standard may have occurred during startup accompanied by the information in Condition 7.2.9(g)(iv) if a violation may have or did occur.

D. Whether the established startup procedures, maintained above, were followed accompanied by the information in Condition 7.2.9(g)(iii) if there were departure(s) from those procedures.

iii. If the established startup procedures were not followed during a startup, the Permittee shall maintain the following records:

A. A description of the departure(s) from the established procedures.

B. The reason(s) for the departure(s) from the established procedures.

C. An explanation of the consequences of the departure(s) for emissions, such as whether the departure(s) prolonged the startup or resulted in additional emissions, and if so:

1. The actions taken to minimize emissions and the duration of the startup; and

2. An explanation whether similar incidents might be prevented in the future and if so, the corrective actions taken or to be taken to prevent similar incidents.

iv. If a violation did or may have occurred during a startup, the Permittee shall maintain the following records:

A. Identification of the applicable standard(s) that were or may have been violated.

B. An explanation of the nature of such violation(s), including the magnitude of such excess emissions.

C. A description of the actions taken to minimize the magnitude of emissions and duration of the startup.

D. An explanation whether similar incidents could be prevented or ameliorated in the future and if so, a description of the actions taken or to be taken to prevent similar incidents in the future.

h. Records for Malfunctions or Breakdowns

Pursuant to 35 IAC 201.263, the Permittee shall maintain records of continued operation of the affected coke ovens as addressed by Condition 7.2.5-4, during malfunctions or breakdowns, which at a minimum, shall include the following records. The preparation of these records shall be completed within 45 days of an incident, unless the Permittee conducts a root cause analysis for the incident, in which case the preparation of these records, other than

the root cause analysis, shall be completed within 120 days of the incident.

i. Date, time and duration of the incident.

ii. A detailed description of the incident, including:

A. A chronology of significant events during and leading up to the incident.

B. Relevant operating data for the unit, including information such as operator log entries and directives provided by management during the incident.

C. The measures taken to reduce the quantity of emissions and the duration of the incident including the resources utilized to address the incident.

D. The magnitude of emissions during the incident.

iii. An explanation why continued operation of an affected coke oven was necessary to prevent personnel injury or prevent equipment damage.

iv. A discussion of the cause(s) or probable cause(s) of the incident including the following:

A. Whether the incident was sudden, unavoidable, or preventable, including:

1. Why the equipment design did not prevent the incident;

2. Why better maintenance could not have avoided the incident;

3. Why better operating practices could not have avoided the incident; and

4. Why there was no advance indication for the incident.

B. Whether the incident stemmed from any activity or event that could have been foreseen, avoided or planned for,

C. Whether the incident was or is part of a recurring pattern indicative of inadequate design, operation or maintenance.

v. A description of any steps taken to prevent similar future incidents or reduce their frequency and severity.

vi. As an alternative to keeping the records required by Condition 7.2.9(h)(iv), the Permittee may perform a root cause analysis. For this purpose, a root cause analysis is an analysis whose purpose is to determine, correct and eliminate the primary causes of the incident and the excess emissions resulting there from. If the Permittee performs a root cause analysis method that would define the problem, define all causal relationships, provide a causal path to the root cause, delineate the evidence, and provide solutions to prevent a recurrence. Such an analysis shall be completed within one year of the incident.

i. Quench stations

The Permittee shall maintain the following records for quenching operations:

i. A file listing the emissions factors used by the Permittee to determine the emissions of the various quenching operations, with supporting documentation and analysis. These records shall be prepared and copies sent to the Illinois EPA in accordance with Condition 5.9.6(c).

ii. Records for the total number of quenches (ovens pushed), the total amount of coke quenched (tons) and the average amount of coke per quench (tons/quench) on a monthly and annual basis*.

iii. A log showing each period of time when coke was quenched at the East Quench Station, with number of quenches during the period and explanation of reason for use of the East Quench Station.

iv. Records on an annual basis* for the:

A. Total number of quenches.

B. For the East Quench Station:

1. Total number of quenches and amount of coke quenched at the East Quench Station.

2. Total number of quenches and amount of coke quenched at the East Quench Station due to malfunction and breakdown.

3. Percentage of total quenches that occurred at the East Quench Station.

C. For the emergency quench station:

1. Total number of quenches and amount of coke quenched at the emergency quench station.

2. Percentage of total quenches that occurred at the emergency quench station.

* These records shall be kept for the 12-month period from July 1 to June 30 and the initial 12-month period following shakedown of the West Quench Station with new quench tower.

v. Records for emissions of PM, PM_{10}, and $PM_{2.5}$ from each affected quench station and from the emergency quench station (tons/month and tons/year), with supporting calculations.

j. i. A file containing the emission rates (lb/hr and lb/ton) used by the Permittee to determine PM emissions from the mobile quench cars, with supporting documentation, which rates shall be reviewed when new data becomes available to assure that these rates do not understate actual emissions. These records shall be prepared and copies sent to the Illinois EPA in accordance with Condition 5.9.6(c).

ii. Records of PM emissions of the mobile scrubber cars (tons/month and tons/year), with supporting calculations.

k. i. Monthly and annual records of supplementary natural gas usage (scf) for underfiring the coke oven batteries and associated emissions (tons) with supporting calculations.

ii. Records of emissions as addressed in Condition 7.2.6(c).

l. Records of observations of duration of charging, percentage of leaks or opacity that are conducted by the Permittee or on its behalf to determine compliance with 35 IAC 212.443(b) and (c)(1)(A) in addition to the observations required by Condition 7.2.8-1 and 7.2.8-2.

m. Records of all test reports and submittals related to emission testing required by Section 7.2 of this permit.

7.2.10 Reporting Requirements

a. Opacity Monitoring Reports for Combustion Stacks

Pursuant to Sections 39.5(7)(a), (d) and (p) of the Act, the Permittee shall provide the following reports for each coke oven battery to the Illinois EPA, including a copy directly to Collinsville Regional Office, on a quarterly basis.

i. "Excess opacity reports" that list all opacity measurements which exceed 30 percent, averages over a six minute period. These reports shall also provide, for each such incident, the percent opacity measured as well as the date and span of such incident. These reports shall state the reasons for excess opacity. These reports shall also specify the date of those periods during which the continuous monitoring system was not in operation.

ii. "Summary reports" that provide the average opacity, 6-minute average, measured during the reporting period and the distribution of opacity measurements, 6-minute average and hourly average, during the reporting period, by percent, in ranges as follows:

Ranges	
6-Minute Averages	Hourly Averages
< 2	< 1
> 2 and < 5	> 1 and < 3
> 5 and < 10	> 3 and < 6
> 10 and < 15	> 6 and < 10
> 15 and < 20	> 10 and < 15
> 20 and < 30	> 15
> 30	

b. 40 CFR Part 63, Subpart CCCCC (40 CFR 63.7336)

Pursuant to 63.7336(a) the Permittee must report each instance in which it did not meet each emission limitation in Conditions 7.2.3-5(c), 7.2.3-6(a) and 7.2.3-7(b). This includes periods of startup, shutdown, and malfunction. The Permittee must also report each instance in which it did not meet each work practice standard or operation and maintenance requirement in Condition 7.2.8-2(h). These instances are deviations from the emission limitations (including operating limits), work practice standards, and operation and maintenance requirements. These deviations must be reported according to the requirements in 40 CFR 63.7341.

c. 40 CFR Part 63, Subpart CCCCC (40 CFR 63.7341)

i. Pursuant to 40 CFR 63.7341(a)(3) and (4), compliance report due dates. Unless the Illinois EPA has approved a different schedule, the Permittee shall submit quarterly compliance reports for battery

stacks and semiannual compliance reports for all other affected sources to the Illinois EPA according to the following requirements:

A. All quarterly compliance reports for battery stacks must be postmarked or delivered no later than one calendar month following the end of the quarterly reporting period. All semiannual compliance reports must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

B. If the Illinois EPA has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A), the Permittee may submit compliance reports according to the dates the Illinois EPA has established instead of according to the dates in 40 CFR 63.7341(a)(1) through (3).

ii. Quarterly compliance report contents. Each quarterly report must provide information on compliance with the emission limitations for battery stacks in 40 CFR 63.7296. The reports must include the information in 40 CFR 63.7341(c)(1) through (3), and as applicable, 40 CFR 63.7341(c)(4) through (8).

iii. Semiannual compliance report contents. Each compliance report must provide information on compliance with the emission limitations, work practice standards, and operation and maintenance requirements for all affected sources except battery stacks. The reports must include the following information [40 CFR 63.7341(c)]:

A. Company name and address.

B. Statement by a responsible official, with the official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

C. Date of report and beginning and ending dates of the reporting period.

D. If the Permittee had a startup, shutdown, or malfunction during the reporting period and the Permittee took actions consistent with the startup, shutdown, and malfunction plan, the compliance report must include the information in 40 CFR 63.10(d)(5)(i).

E. If there were no deviations from the continuous compliance requirements in 40 CFR 63.7333(e) for battery stacks, a statement that there were no deviations from the emission limitations during the reporting period. If there were no deviations from the continuous compliance requirements in 40 CFR 63.7333 through 63.7335 that apply to the Permittee (for all affected sources other than battery stacks), a statement that there were no deviations from the emission limitations, work practice standards, or operation and maintenance requirements during the reporting period.

F. If there were no periods during which a continuous monitoring system (including COMS, continuous emission monitoring system (CEMS), or CPMS) was out-of-control as specified in 40 CFR 63.8(c)(7), a statement that there were no periods during which a continuous monitoring system was out-of-control during the reporting period.

G. For each deviation from an emission limitation in Subpart CCCCC (including quench water limits) and for each deviation from the requirements for work practice standards in Subpart CCCCC that occurs at an affected source where the Permittee is not using a continuous monitoring system (including a COMS, CEMS, or CPMS) to comply with the emission limitations in Subpart CCCCC, the compliance report must contain the following information (this includes periods of startup, shutdown, and malfunction):

1. The total operating time of each affected source during the reporting period.

2. Information on the number, duration, and cause of deviations (including unknown cause, if applicable) as applicable and the corrective action taken.

H. For each deviation from an emission limitation occurring at an affected source where the Permittee is using a continuous monitoring system (including COMS, CEMS, or CPMS) to comply with the emission limitation in Subpart CCCCC, the Permittee shall include the

following information (this includes periods of startup, shutdown, and malfunction):

1. The date and time that each malfunction started and stopped.

2. The date and time that each continuous monitoring system (including COMS, CEMS, or CPMS) was inoperative, except for zero (low-level) and high-level checks.

3. The date, time, and duration that each continuous monitoring system (including COMS, CEMS, or CPMS) was out-of-control, including the information in 40 CFR 63.8(c)(8).

4. The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

5. A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

6. A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

7. A summary of the total duration of continuous monitoring system downtime during the reporting period and the total duration of continuous monitoring system downtime as a percent of the total source operating time during the reporting period.

8. An identification of each HAP that was monitored at the affected source.

9. A brief description of the process units.

10. A brief description of the continuous monitoring system.

11. The date of the latest continuous monitoring system certification or audit.

12. A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.

iv. Immediate startup, shutdown, and malfunction report. If the Permittee had a startup, shutdown, or malfunction during the semiannual reporting period that was not consistent with the Permittee's startup, shutdown, and malfunction plan, the Permittee shall submit an immediate startup, shutdown, and malfunction report according to the requirements in 40 CFR 63.10(d)(5)(ii).

d. 40 CFR Part 63, Subpart L (40 CFR 63.311)

i. Semiannual compliance certification. The Permittee shall include the following information in the semiannual compliance certification [40 CFR 63.311(d)]:

A. Certification, signed by the Permittee, that no coke oven gas was vented, except through the bypass/bleeder stack flare system of a by-product coke oven battery during the reporting period or that a venting report has been submitted according to the requirements in 40 CFR 63.311(e).

B. Certification, signed by the Permittee, that a startup, shutdown, or malfunction event did not occur for a coke oven battery during the reporting period or that a startup, shutdown, and malfunction event did occur and a report was submitted according to the requirements in 40 CFR 63.310(e).

C. Certification, signed by the Permittee, that work practices were implemented if applicable under 40 CFR 63.306.

ii. Report for the venting of coke oven gas other than through a flare system. The Permittee shall report any venting of coke oven gas through a bypass/bleeder stack that was not vented through the bypass/bleeder stack flare system to the Administrator as soon as practicable but no later than 24 hours after the beginning of the event. A written report shall be submitted within 30 days of the event and shall include a description of the event and, if applicable, a copy of the notification for a

hazardous substance release required, pursuant to 40 CFR 63.311(e).

iii. 40 CFR Part 63, Subpart L (40 CFR 63.310)

A. Pursuant to 40 CFR 63.310(d), in order for the provisions of 40 CFR 63.310(i) to apply with respect to the observation (or set of observations) for a particular day, notification of a startup, shutdown, or a malfunction shall be made by the Permittee:

If practicable, to the certified observer if the observer is at the source during the occurrence; or to the enforcement agencies (USEPA and Illinois EPA), in writing, within 24 hours of the occurrence first being documented by personnel, and if the notification to the certified observer was not made, an explanation of why no such notification was made.

B. Pursuant to 40 CFR 63.310(e), within 14 days of the notification made under 40 CFR 63.310 (d), or after a startup or shutdown, the Permittee shall submit a written report to the Illinois EPA that describes the time and circumstances of the startup, shutdown, or malfunction; and describes actions taken that might be considered inconsistent with the startup, shutdown, or malfunction plan.

e. i. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the Illinois EPA, Air Compliance Section, within 30 days of deviations by the affected coke oven operations from applicable requirements unless a NESHAP standard specifies a different timeframe as identified in Condition 7.2.11(c) and (d), as follows:

A. Requirements in Condition 7.2.3(d).

B. Requirements in Condition 7.2.3-1.

C. Requirements in Condition 7.2.3-2.

D. Requirements in Condition 7.2.3-3.

E. Requirements in Condition 7.2.3-4.

F. Requirements in Condition 7.2.3-5.

G. Requirements in Condition 7.2.3-6.

H. Requirements in Condition 7.2.3-7.

I. Requirements in Condition 7.2.3-8.

J. Requirements in Condition 7.2.5-1.

K. Requirements in Condition 7.2.5-2.

L. Requirements in Condition 7.2.6.

ii. All such deviations shall be summarized and reported as part of the semiannual monitoring report required by Condition 8.6.1.

iii. The Permittee shall notify the Illinois EPA, Air Compliance Section, of all other deviations as part of the semiannual monitoring reports required by Condition 8.6.1.

iv. All deviation reports described in Condition 7.2.10(e) above shall contain the following:

A. Date, time and duration of the deviation;

B. Description of the deviation;

C. Probable cause of the deviation; and

D. Any corrective actions or preventive measures taken.

f. Quench stations [08060026]

The Permittee shall provide the following notification and reports to the Illinois EPA, Air Compliance Section and Regional Field Office, pursuant to 35 IAC 201.263, concerning continued operation of quenching operations during malfunction or breakdown that does not meet the requirements of 35 IAC 212.443(h)(1):

i. For noncompliance due to malfunction or breakdown that lasts more than 30 minutes (quenching of four ovens):

A. The Permittee shall notify the Illinois EPA's regional office by telephone as soon as possible during normal working hours, but no later than the next Agency business day.

B. Upon achievement of compliance, the Permittee shall give a written follow-up notice within 15 days to the Illinois EPA, Air Compliance Section and Regional Field Office, providing a detailed explanation of the event, the length of time during which operation continued under such conditions, the measures taken by the Permittee to minimize and correct deficiencies

with chronology, and when the repairs were completed.

C. If compliance is not achieved within 48 hours of the occurrence, the Permittee shall submit interim status reports to the Illinois EPA, Air Compliance Section and Regional Field Office, on a daily basis, until compliance is achieved. These interim reports shall provide a brief explanation of the nature of the malfunction or breakdown, corrective actions accomplished to date, actions anticipated to occur with schedule, and the expected date on which repairs will be complete.

ii. For noncompliance due to malfunction or breakdown that is no more than 30 minutes in duration, the Permittee shall provide the information for the incident or period with the periodic compliance reports required by 40 CFR 63, Subpart CCCCC.

iii. Within two years of initial startup of the low emission quench tower on the West Quench Station, the Permittee shall submit a report evaluating the reduction in filterable and total $PM_{2.5}$ and PM_{10} emissions achieved by this project, on both in terms of emissions per ton of coke quenched and in terms of annual emissions.

g. Reporting on the State malfunction and breakdown authorization shall be performed in accordance with Condition 5.10.5-2.

h. Reporting on the State startup authorization shall be performed in accordance with Condition 5.10.5-1.

i. Reporting on the Federal SSM authorization shall be performed in accordance with Condition 5.10.5-3.

7.2.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected coke oven operations.

7.2.12 Compliance Procedures

For purposes of 35 IAC 212.443:

a. Coke Oven Charging, Leaks from Doors, Leaks from Lids and Leaks from Off Takes: Observations shall be conducted in accordance with 40 CFR 63, Appendix A, Method 303 which is consistent with the procedures specified in 35 IAC 280.104 to 280.107 and the Consent Decree, Civil Action No. 81-3009 referenced in Construction Permit C808048.

i. Battery A and B - Charging:

Observations shall be conducted in accordance with 40 CFR 63, Appendix A, Method 303 which is consistent with the procedures specified in 35 IAC 280.104 to 280.107 and the Consent Decree, Civil Action No. 81-3009 referenced in Construction Permit C808048.

Observation of charging emissions shall be made from any point or points on the topside of a coke oven battery from which a qualified observer can obtain an unobstructed view of the charging operation.

The qualified observer shall time the visible emissions with a stopwatch while observing the charging operation. Only emissions from the charge port and any part of the larry car shall be timed. The observation shall commence as soon as coal is introduced into the first charge port as indicated by the first charge port as indicated by the first mechanical movement of the coal feeding mechanism on the larry car and shall terminate when the last charge port lid has been replaced. Simultaneous emissions from more than one emission point shall be timed and recorded as one emission and shall not be added individually to the total time.

The qualified observer shall determine and record the total number of seconds that charging emissions are visible during the charging of coal to the coke oven.

For each charge observed, the qualified observer shall record the total number of seconds of visible emissions, the clock time for the initiation and completion of the charging operation and the battery identification and oven number.

The qualified observer shall not record any emissions observed after all charging port lids have been firmly seated following removal of the larry car, such as emissions occurring when a lid has been temporarily removed to permit spilled coal to be swept into the oven.

In the event that observations of emissions from a charge are interrupted due to events beyond the control of the observer, the data from that charge shall be invalidated and the observer shall note on his observation sheet the reason for invalidating the data. The observer shall then resume observation of the next consecutive charge or charges, and continue until he has obtained a set of consecutive charges immediately preceding the interrupted charge and the charge immediately following the interrupted charge shall constitute consecutive charges. Compliance

shall be determined by summing the seconds of charging emission observed during a set of five consecutive charges. Any one charge may be included in only one set of consecutive charges.

ii. Battery A and B - Doors:

Compliance with the percent door area leakage standard shall be determined in accordance with the following method:

Observations of door emissions shall be made from a minimum distance of 25 feet from each door. Each door shall be observed in sequence for only that period necessary to determine whether or not, at the time, there are visible emissions from any point on the door while the observer walks along the side of the battery. If the observer's view of a door is more than momentarily obstructed, as, for example, by door machinery, pushing machinery, coke guide, luter truck, or opaque steam plumes, he shall record the door obstructed and the nature of the obstruction and continue the observations with the next door in sequence which is not obstructed. The observer shall continue this procedure along the entire length of the battery for both sides and shall record the battery identification, battery side, and oven door identification number of each door exhibiting visible emissions. Before completing the traverse or immediately thereafter he shall attempt to reobserve the obstructed doors.

iii. Battery A and B - Charging Ports/Lids:

For purposes of determining compliance with limits on visible emissions from charging ports, observations of any visible emissions shall be made and recorded during the time an observer walks the topside of a battery from one end to the other. Each oven shall be observed in sequence. The observer may also observe off take pipe leaks during this traverse of the battery. The observer shall record the battery identification, the points of emissions from each oven, the oven number, and whether an oven was dampered off. Compliance shall be determined by application of the following formula which shall exclude the ports on up to 3 ovens ahead of the oven being pushed which are dampered off.

iv. Battery A and B - Off Takes:

For purposes of determining compliance with limits on visible emissions from off take pipes, observations of any visible emissions from the off take piping shall be made by traversing the topside of the

battery. During the traverse(s), the observer shall walk as near to the center of the battery as safety considerations permit but may walk as close as necessary to the off take piping to determine whether an observed emission is emanating from the off take piping. Each oven shall be observed in sequence. The observer may also observe charging port emissions during this traverse of the battery. The observer shall record the battery identification, the points of off take piping emission from any oven and the oven number.

b. Coke Oven Pushing:

i. Battery A and B:

Opacity readings shall be taken by a qualified observer located in a position where the oven being pushed, the coke receiving car and the path to the quench tower are visible. The opacity shall be read as the emissions rise and clear the top of the coke battery gas mains. The qualified observer shall record opacity readings of emissions originating at the receiving car and associated equipment and the coke oven, including the standpipe on the coke side of the oven being pushed. Opacity readings shall be taken in accordance with the procedures set forth in 40 CFR Part 60, Appendix A, Method 9, incorporated by reference in 35 IAC 212.113, except that Section 2.5 for data reduction shall not be used. The qualified observer referenced in this subsection shall be certified pursuant to 40 CFR Part 60, Appendix A, Method 9, incorporated by reference in 35 IAC 212.113.

ii. Battery A:

Opacity readings shall be taken at 15-second intervals, beginning from the time the coke falls into the receiving car or is first visible as it emerges from the coke guide whichever occurs earlier, until the receiving car enters the quench tower or quenching device. For a push of less than 90 seconds duration, the actual number of 15-second readings shall be averaged.

At least four consecutive pushes per day.

iii. Battery B:

Opacity readings shall be taken at 15-second intervals, beginning from the time the coke falls into the receiving car or is first visible as it emerges from the coke guide whichever occurs earlier, until the end of the sixth reading. During the

pushing operation, the observer shall observe all the pushing emissions including, but not limited to, fugitive emissions from the pushing emission control device and from open quench cars during travel.

At a minimum, one push per day.

c. Coke Quenching (35 IAC 212.443(h)(2))

i. Samples shall be taken from each quench station as separate grab samples or composite samples.

ii. Samples shall be collected a minimum of five days per week and analyzed to report a weekly concentration. The samples for each week shall be analyzed either:

A. Separately, with the average of the individual daily concentrations determined; or

B. As one composite sample, with equal volumes of the individual daily samples combined to form the composite sample.

7.2.13 State-Only Conditions

State-only conditions are not being established.

7.3 Coke By-Product Recovery Plant and COG Desulfurization System

7.3.1 Description

COG is made up of various organic materials volatilized during the coal-to-coke conversion process. The raw coke oven gas from U. S. Steel two existing coke oven batteries is processed in the coke by-product recovery plant, where various byproducts are removed. Once treated, the COG is used as a fuel in the coke batteries and in various boilers and furnaces throughout the facility.

Coke Oven Gas (COG) Processing Unit:

COG from the coke ovens first passes through the primary cooler where it is cooled. The cooling of COG causes tar, naphthalene, and liquor to condense. The cool COG is then pushed through the entire by-product plant with the aid of exhausters. More tar and liquor are removed by the centrifugal force created in the exhausters. Droplets of tar, naphthalene, and liquor accumulate and drain to the tar sump. Ammonia present in the COG is then removed by passing it through ammonia absorber. The removal of ammonia is accomplished by exposing the COG to a spray of sulfuric acid in the ammonia absorber. The COG then enters the Tar Spray Final Cooler where the COG is further cooled and most of the naphthalene is removed with tar injection. Next COG passes through the Light Oil Scrubber, which is designed to remove the remaining naphthalene and "Light Oils".

From the light oil scrubber, the treated COG is normally further processed in the COG desulfurization system to remove sulfur. The COG is not always processed by desulfurization system because of the need for periodic maintenance on the system. The permit limits the amount of time during which this may occur. COG desulfurization system consists of a packed tower amine unit, hydrogen cyanide destruction unit, and a Claus sulfur recovery unit with tail gas oxidizer. The system removes hydrogen sulfide (H_2S) from the treated COG stream from the by-product plant. The COG desulfurization system is not part of the by-products recovery plant.

The COG stream from the by-product plant is sent to a pressure holding tank from where the COG is distributed to underfire the Coke Oven Batteries and various parts of the plant.

Light Oil Processing Unit:

Processing the Light Oil generated at the Light Oil Scrubber, also called Benzol Washer, is the main activity of this unit. In the Light Oil Scrubber, wash oil is used to scrub out Light Oil from the Coke Oven Gas. Next wash oil is cleaned and re-circulated back through the Light Oil scrubber as described below.

After scrubbing out the light oil in the Light Oil Scrubber, the wash oil passes through two oil to vapor heat exchangers, where the light oil is vaporized. The vapors are then passed through two cool water condensers to condense out the light oil. The light oil then passes through the Secondary Light Oil Separator, where any remaining wash oil and water is removed. The liquid oil is then pumped into one of six storage tanks.

After passing through the oil to vapor heat exchangers, the wash oil passes through steam heaters, the Wash Oil Still, coolers, and finally the Wash Oil Recirculating Tank before it is reintroduced in the Light Oil Scrubber.

Coal Tar Processing:

Tar is collected into a tar sump. The tar is decanted by passing through one of three decanters. Sludge from the decanters is dumped into hoppers from where it is collected by a company for further treatment. Tar from the decanters pass through two dehydration tanks where the water is removed. The tar is then pumped to a storage tank, where it is stored until shipment.

Note: This narrative description is for informational purposes only and is not enforceable.

7.3.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
By-Product Recovery	Coke oven Gas Processing Unit (coke oven gas transfer and handling; gas coolers; gas processing/cleaning unit)	Prior to 06/1982	Steam Blanketing
By-Product Recovery (Continued)	Light Oil Processing (stills; process condensers; sumps) Coal Tar Processing (tar collection and transfer; tar storage tanks) Tar Storage Tanks; Dehydration Tanks; Decanters; Light Oil Storage Tanks; Ammonia Liquor; Storage Tanks	Prior to 06/1982	Clean Gas Blanketing; Steam Blanketing; Negative Pressure Systems

Emission Unit	Description	Date Constructed	Emission Control Equipment
	Railcar/Truck Loading	2004	Vapor Recovery System; Negative Pressure
COG Desulfurization System	Packed tower amine unit and hydrogen cyanide destruction unit		Closed Systems
	Claus Sulfur Recovery Unit		Thermal Oxidizer
COG Flare	COG holding tank and flare		None

7.3.3 Applicable Provisions and Regulations

a. i. The "affected by-product recovery plant" for the purpose of these unit-specific conditions, is the group of emission units and/operations in the coke by-product recovery plant described in Conditions 7.3.1 and 7.3.2.

ii. The COG desulfurization system is the system for desulfurization of treated COG described in Conditions 7.3.1 and 7.3.2.

iii. The COG flare is the system for burning of excess of COG described in Conditions 7.3.1 and 7.3.2.

b. The affected by-product recovery plant is subject to the work practices in 40 CFR Part 61, Subpart L, National Emission Standards for Benzene Emissions from Coke By-Product Recovery Plants.

c. The affected by-product recovery plant is subject to the work practices in 40 CFR Part 61, Subpart V, National Emission Standards for Equipment Leaks (Fugitive Emissions).

d. The affected by-product recovery plant is subject to the work practices in 40 CFR Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations.

e. No person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 liters (250 gallons), unless such tank is equipped with a permanent submerged loading pipe or an equivalent device approved by the Illinois EPA according to the provisions of 35 IAC 201, and further processed consistent with 35 IAC 219.108, or unless such tank is a pressure tank as described in 35 IAC 219.121(a) or is

fitted with a recovery system as described in 35 IAC 219.121(b)(2) [35 IAC 219.122(b)].

f. The affected by-product recovery plant, COG desulfurization system and COG flare are subject to 35 IAC 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, except as allowed by 35 IAC 212.123(b) and 212.124.

g. SO_2 emissions from the affected by-product recovery plant and COG flare shall not exceed 2000 ppm pursuant to 35 IAC 214.301.

7.3.4 Non-Applicability of Regulations of Concern

a. The storage tanks used at the affected by-product recovery plant are not subject to 35 IAC 219.120 because of the exemption for vessels at coke by-product plants in 35 IAC 219.119(b).

b. The storage tanks used at the affected by-product recovery plant are not subject to 35 IAC 219.121 (Storage Containers of Volatile Petroleum Liquids (VPL)) because the liquids kept in those tanks are not the product of petroleum refinery and, therefore, do not meet the definition of VPL/petroleum liquids of 35 IAC Part 211.

c. This permit is issued based on the affected by-product recovery plant not being subject to the applicable requirements of 35 IAC 219.301 because there is 85% reduction of uncontrolled organic material that would otherwise be emitted into atmosphere, pursuant to 35 IAC 219.302.

d. The COG desulfurization system and COG flare are not subject to 40 CFR 63 Subpart L, National Emission Standards for Benzene Emissions from Coke By-Product Recovery Plants, because both COG systems are not involved in the separation and recovery of coal tar derivatives evolved from coal during the coking process of a coke oven battery.

e. This permit is issued based on the COG desulfurization system (thermal oxidizer) not being subject to 35 IAC 214.301 pursuant to 35 IAC 214.302, which provides that 35 IAC 214.301 shall not apply to processes designed to remove sulfur compounds from the flue gases of fuel combustion emission sources.

7.3.5 Operation of COG Flare during Malfunction and Breakdown

Pursuant to 35 IAC 201.149 and Part 201 Subpart I, subject to the following terms and conditions, the Permittee is authorized

to continue to operate the COG flare in excess of the applicable state standard in Condition 7.3.3(f) in the event of a malfunction or breakdown.

Note: This authorization is provided because the Permittee applied for such authorization in its CAAPP application, generally explaining why such continued operation would be required to prevent injury to personnel or severe damage to equipment, and describing the measures that will be taken to minimize emissions from any malfunctions and breakdowns.

a. This authorization only allows such continued operation as necessary to prevent injury to personnel or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee.

b. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall, as soon as practicable, repair the COG flare, reduce flare load or remove it from service so that excess emissions cease.

c. The Permittee shall fulfill the applicable recordkeeping and reporting requirements of Conditions 7.3.10(h) and 5.10.5-2 For these purposes, time shall be measured from the start of a particular incident. The absence of excess emissions for a short period shall not be considered to end the incident if excess emissions resume.

d. Following notification to the Illinois EPA (see Condition 5.10.5-2(a)(i))of a malfunction or breakdown with excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident.

e. This authorization does not relieve the Permittee from the continuing obligation to minimize excess emissions during malfunction or breakdown. As provided by 35 IAC 201.265, an authorization in a permit for continued operation with excess emissions during malfunction and breakdown does not shield the Permittee from enforcement for any such violation and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

7.3.6 Control Requirements and Work Practices

a. 40 CFR Part 61, Subpart L:

i. The Permittee shall operate and maintain a Control System to meet the standards specified below in 40 CFR Part 61 Subpart L. This Control System consists of a Positive Pressure Gas Blanketing System supplied with clean coke oven gas controlling the light oil

area and a Negative Pressure or Steam Blanketing System controlling tar, ammonia and liquor tanks.

ii. These control systems shall be designed to operate with no detectable emissions (an organic chemical concentration more than 500 ppm above a background concentration), as determined by the methods specified in 40 CFR 61.245, pursuant to 40 CFR 61.132(b).

iii. The Permittee shall comply with 40 CFR 61.132 - Standard: Process vessels, storage tanks, and tar-intercepting sumps, which includes the following:

A. Each owner or operator of a furnace byproduct recovery plant shall enclose and seal all openings on each process vessel, tar storage tank, and tar-intercepting sump.

B. The owner or operator shall duct gases from each process vessel, tar storage tank, and tar-intercepting sump to the gas collection system, gas distribution system, or other enclosed point in the by-product recovery process where the benzene in the gas will be recovered or destroyed. This control positive pressure blanketing system shall be designed and operated for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined by the methods specified in 40 CFR 61.245(c).

1. Except, the owner or operator may elect to install, operate, and maintain a pressure relief device, vacuum relief device, an access hatch, and a sampling port on each process vessel, tar storage tank, and tar-intercepting sump. Each access hatch and sampling port must be equipped with a gasket and a cover, seal, or lid that must be kept in a closed position at all times, unless in actual use.

2. The owner or operator may elect to leave open to the atmosphere the portion of the liquid surface in each tar decanter necessary to permit operation of a sludge conveyor. If the owner or operator elects to maintain an opening on part of the liquid surface of the tar decanter, the owner or operator shall install, operate, and maintain a water leg seal on the tar decanter roof near the sludge

discharge chute to ensure enclosure of the major portion of liquid surface not necessary for the operation of the sludge conveyor.

C. Each owner or operator of a furnace coke by-product recovery plant also shall comply with the requirements of 40 CFR 61.132(a) through (c) for each benzene storage tank, BTX storage tank, light-oil storage tank, and excess ammonia-liquor storage tank.

iv. The Permittee shall comply with 40 CFR 61.133 - Standard: Light-oil sumps, which includes the following, pursuant to 40 CFR 61.133(a) and 61.133(c):

A. Each owner or operator of a light-oil sump shall enclose and seal the liquid surface in the sump to form a closed system to contain the emissions.

1. Except, the owner or operator may elect to install, operate, and maintain a vent on the light-oil sump cover. Each vent pipe must be equipped with a water leg seal, a pressure relief device, or vacuum relief device.

2. Except, the owner or operator may elect to install, operate, and maintain an access hatch on each light-oil sump cover. Each access hatch must be equipped with a gasket and a cover, seal, or lid that must be kept in a closed position at all times, unless in actual use.

3. The light-oil sump cover may be removed for periodic maintenance but must be replaced (with seal) at completion of the maintenance operation.

B. The venting of steam or other gases from the by-product process to the light-oil sump is not permitted [40 CFR 61.133(a)].

C. Following the installation of any control equipment used to meet the requirements of 40 CFR 61.133(a), the owner or operator shall monitor the connections and seals on each control system to determine if it is operating with no detectable emissions, using Method 21 (40 CFR Part 60, Appendix A) and the procedures specified in 40 CFR 61.245(c), and shall

visually inspect each source (including sealing materials) for evidence of visible defects such as gaps or tears. This monitoring and inspection shall be conducted semiannually and at any other time the cover is removed.

1. If an instrument reading indicates an organic chemical concentration more than 500 ppm above a background concentration, as measured by Method 21, a leak is detected.

2. If visible defects such as gaps in sealing materials are observed during a visual inspection, a leak is detected.

3. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected.

4. A first attempt at repair of any leak or visible defect shall be made no later than 5 calendar days after each leak is detected [40 CFR 61.133(c)].

v. The Permittee shall comply with 40 CFR 61.135 - Standard: Equipment leaks.

A. Each piece of equipment in benzene service to which 40 CFR 61 Subpart L applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment in benzene service [40 CFR 61.135(c)].

B. Each owner or operator of equipment in benzene service shall comply with requirements of 40 CFR 61, Subpart V.

C. The provisions of 40 CFR 61.242-3 and 61.242-9 of Subpart V do not apply to Subpart L.

b. 40 CFR Part 61, Subpart V:

40 CFR 61.242-10: Standards: Delay of Repair

i. Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.

ii. Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is

isolated from the process and that does not remain in VHAP (volatile hazardous air pollutant) service.

iii. Delay of repair for valves will be allowed if:

A. The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair; and

B. When repair procedures are affected, the purged material is collected and destroyed or recovered in a control device complying with 40 CFR 61.242-11.

iv. Delay of repair for pumps will be allowed if:

A. Repair requires the use of a dual mechanical seal system that includes a barrier fluid system; and

B. Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

v. Delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

c. 40 CFR 61 Subpart FF (61.355(a)(3) through (a)(5)).

i. Pursuant to 40 CFR 61.355(a)(3), if the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 tons/yr), then the owner or operator shall comply with the requirements of 40 CFR 61.342(c), (d), or (e).

ii. Pursuant to 40 CFR 61.355(a)(4), if the total annual benzene quantity from facility waste is less than 10 Mg/yr (11 tons/yr) but is equal to or greater than 1 Mg/yr, (1.1 ton/yr), then the owner or operator shall:

A. Comply with the recordkeeping requirements of 40 CFR 61.356 and reporting requirements of 40 CFR 61.357; and

B. Repeat the determination of total annual benzene quantity from facility waste at least once per year and whenever there is a change in the process generating the waste that could cause the total annual benzene quantity from facility waste to increase to 10 Mg/yr (11 ton/yr) or more.

iii. Pursuant to 40 CFR 61.355(a)(5), if the total annual benzene quantity from facility waste is less than 1 Mg/yr (1.1 ton/yr), then the owner or operator shall:

A. Comply with the recordkeeping requirements of 40 CFR 61.356 and reporting requirements of 40 CFR 61.357; and

B. Repeat the determination of total annual benzene quantity from facility waste whenever there is a change in the process generating the waste that could cause the total annual benzene quantity from facility waste to increase to 1 Mg/yr (1.1 ton/yr) or more.

d. The COG flare shall be operated with a flame present at all times when COG is vented to the flare [Section 39.5(7)(a) of the Act].

7.3.7 Production and Emission Limits for the COG Desulfurization System from Permit 06070022

a. The Permittee shall operate COG desulfurization system (COG-DS) at all times the by-products plant is producing COG, except when undertaking maintenance or repairs of the system. This total "outage" period shall not exceed 35 days (840 hours) per calendar year.

b. i. Raw COG production during periods of time when the COG-DS is not operating shall not exceed 1,092 mmscf/year.

ii. Total amount of COG generated by Coke Oven Batteries A and B and processed by by-products plant shall not exceed 1,140 mmscf/month and 11,400 mmscf/year.

c. i. The COG-DS shall be operated and maintained in conformance with good air pollution control practices.

ii. The thermal oxidizer combustion chamber for the sulfur recovery unit shall be operated at a temperature that is greater than 1,100°F.

d. i. The H_2S content of the raw COG entering the COG-DS shall not exceed 500 grains of H_2S/100 scf of COG, daily average.

ii. The H_2S content of desulfurized COG exiting the COG-DS shall not exceed 66 grains/100 scf of COG, annual average.

iii. During periods of time when the COG-DS is operating, the H_2S content of COG shall not exceed the following limits: 25 grains of H_2S/100 scf of COG, monthly average, excluding outages, startup, shutdown, and upsets such as failure of fans, pumps or heat exchangers and aberrations in the composition or condition of the raw COG.

e. i. Emissions from the thermal oxidizer on the COG-DS shall not exceed the following limits:

PM_{10}		SO_2	
(Lbs/Hr)	(Tons/Yr)	(Lbs/Hr)	(Tons/Yr)
5.6	24.6	67.3	294.7

ii. Combined emissions of PM_{10} and SO_2 from the thermal oxidizer on COG-DS and combustion of coke oven gas shall not exceed 246.8 and 1,074.1 tons/year for PM_{10} and SO_2, respectively [T1].

iii. Compliance with the annual limits in Conditions 7.3.7(b) and (e) shall be determined from a running total of 12 months of data, unless otherwise specified [T1].

7.3.8 Testing Requirements

a. The Permittee, as the owner or operator of a by-products plant, subject to the provisions of 40 CFR Part 61 Subpart L, shall comply with the requirements in 40 CFR 61.245.

b. The Permittee shall determine the total annual benzene (TAB) quantity of the facility using the test methods and procedures for determination in 40 CFR 61.355(a)(5). In particular, if the total annual benzene quantity from facility waste is less than 1 Mg/yr (1.1 ton/yr), then the owner or operator shall repeat the determination of total annual benzene quantity from facility waste whenever there is a change in the process generating the waste that could cause the total annual benzene quantity from facility waste to increase to 1 Mg/yr (1.1 ton/yr) or more.

c. For the COG flare and the thermal oxidizer in the COG-DS, the Permittee shall conduct observations for visible emissions and/or opacity, using USEPA Method 22 and 9, respectively. These observations shall be conducted by individual(s) certified to observe opacity by USEPA Method 9. The observer(s) may either conduct observations for opacity or conduct observations for visible emissions, immediately followed by observations for opacity if visible

emissions are observed. Observations shall be conducted in at least a monthly basis for the COG flare and an annual basis for the COG-DS thermal oxidizer. In addition, for the COG flare, observations shall be coordinated with weather conditions so that at least two observations are made in each calendar year during elevated wind speed conditions, i.e., wind speed of at least 16 miles per hour.

d. Upon the written request from the Illinois EPA, the emission tests shall be conducted by the Permittee for the COG-DS to verify compliance with emission limits in Condition 7.3.7(e) as follows [Section 39.5(7)(d) and (p) of the Act]:

i. The following USEPA test methods shall be used, unless another USEPA method is approved by the Illinois EPA.

Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3
Moisture	Method 4
PM_{10}	Method 201 or 201A
SO_2	Method 6

ii. Observations of opacity shall be conducted during these emission tests in accordance with Method 9 and the results of these observations included in the reports for emission testing.

iii. For this emission testing, test notifications and reporting shall be done by the Permittee in accordance with Conditions 8.6.2 and 8.6.3 of this permit.

7.3.9 Monitoring Requirements

a. For the coke by-product recovery plant, when equipment operated in benzene service is tested for compliance with or monitored for no detectable emissions, the owner or operator shall comply with the following requirements [40 CFR 61.245(c)]:

i. The requirements of 40 CFR 61.245 (b) (1) through (4) shall apply.

ii. The background level shall be determined, as set forth in Method 21.

iii. The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21.

iv. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

b. Alternatives procedures are not established for each exhauster, as provided by 40 CFR 61.135(e) through (g) and 40 CFR 61.136(d). Therefore, pursuant to 40 CFR 61.135(d), each exhauster shall be monitored quarterly to detect leaks 10,000 ppm or greater by the methods specified in 40 CFR 61.245(b).

c. For the coke by-product recovery plant, the owner or operator shall monitor the connections and seals on each control system to determine if it is operating with no detectable emissions, using Method 21 (40 CFR Part 60, Appendix A) and procedures specified in 40 CFR 61.245(c), and shall visually inspect each source (including sealing materials) and the ductwork of the control system for evidence of visible defects such as gaps or tears. This monitoring and inspection shall be conducted on a semiannual basis and at any other time after the control system is repressurized with blanketing gas following removal of the cover or opening of the access hatch.

i. If an instrument reading indicates an organic chemical concentration more than 500 ppm above a background concentration, as measured by Method 21, a leak is detected.

ii. If visible defects such as gaps in sealing materials are observed during a visual inspection, a leak is detected.

iii. When a leak is detected, it shall be repaired by the Permittee as soon as practicable, but not later than 15 calendar days after it is detected.

iv. A first attempt at repair of any leak or visible defect shall be made by the Permittee no later than 5 calendar days after each leak is detected.

d. Pursuant to 40 CFR Part 61.132(a), the Permittee shall operate and maintain Control Systems on the coke by-product plant in accordance with the work practices in 40 CFR Part 61 Subpart L, as specified below. This Control System consists of a Positive Pressure Gas Blanketing System supplied with clean coke oven gas controlling the light oil area and a Negative Pressure or Steam Blanketing System controlling tar, ammonia and liquor tanks.

i. The following procedures shall be conducted on the control system on a semiannual basis and after each time the control system is repressurized and the Permittee shall [40 CFR 61.132(b)]:

A. Inspect the ductwork for evidence of visible defects such as gaps or tears.

B. Monitor the connections and seals to determine if operating with no detectable emissions.

ii. A maintenance inspection of the control system shall be conducted on an annual basis for evidence of system abnormalities such as blocked or plugged lines, sticking valves, plugged condensate traps and other maintenance defects that could result in abnormal system operation. The owner or operator shall make a first attempt at repair within 5 days, with repair within 15 days of detection [40 CFR 61.132(c)].

e. COG flare

Pursuant to Sections 39.5(7)(a) and (d) of the Act, for the COG flare:

i. The Permittee shall either:

A. Install, operate and maintain instrumentation, with alarm, to confirm the presence of a flame at the flare tip; or

B. Monitor for the presence of a pilot flame using a thermocouple or other equivalent device to detect the presence of a flame; or

C. Verify, once per shift, the presence of a flame at the tip of the flare, and that the flare gas header has a positive pressure.

ii. The Permittee shall perform the following inspections of the flare:

A. An inspection of the ignition system on an annual basis;

B. A detailed maintenance and repair inspection during the period when the flare is out of service and/or idled.

f. Monitoring requirements for COG established by FESOP 94120017, Permit 06070022 and Section 39.5(7)(a) of the Act:

i. The Permittee shall operate systems for monitoring the hydrogen sulfide (H_2S) content of the COG exiting the affected by-product plant and exiting the COG-DS.

The H_2S concentration shall be measured on a wet gas basis.

ii. These H_2S monitoring systems shall be equipped with a strip chart recorder or disk storage and shall be capable of recording the H_2S content in grains per standard cubic feet.

iii. These H_2S monitoring systems shall meet the applicable requirements of Performance Specification 7 of 40 CFR 60, Appendix B. These H_2S monitoring systems shall be operated, and data collected, reduced and maintained, in accordance with the applicable requirements of 40 CFR 60.13 and 35 IAC Part 201 Subpart L.

iv. The H_2S monitoring system for COG exiting the by-product plant shall comply with the following requirements for collection of data:

A. The system shall collect hourly average H_2S content data for at least 75% of the daily operating hours in which COG is not treated by the COG-DS (e.g., at 24 hours/day COG production, at least 18 hourly averages of H_2S content must be obtained). In the event that this minimum data requirement cannot be met by the H_2S monitoring system, the H_2S content data shall be supplemented or obtained by one of the following alternative methods.

I. H_2S determined by type of coal used during that period and previous recorded H_2S content when using this coal type. This method shall only be used for a maximum of 15 days per calendar year.

II. A manual sample of COG shall be taken daily and the H_2S content shall be determined by 40 CFR 60, Appendix A, Method 11, as adapted to measure higher ranges of H_2S. This value, or a value based on the mean of the daily values plus two standard deviations for the previous 90 days for which a reading was obtained, whichever is higher, shall be used. Should a coal blend change occur during the period this alternative method is being used, the mean value plus two standard deviations will be adjusted to reflect any potential change in the H_2S content from that of the previous coal blend.

B. The system shall collect H_2S content data for at least 75% of the daily operating hours in which COG is treated by the COG-DS with this data being the average over at least 5 minutes in each such operating hour. In the event that this minimum data requirement cannot be met by the H_2S monitoring system or can only be met with manual cycling of the H_2S monitoring system for treated COG data shall be supplemented or obtained by one of the following alternative methods:

I. H_2S data as obtained by manual sampling and analysis at least one per day; or

II. H_2S data as obtained from the H_2S monitoring system for treated COG at least twice per day, at least 8 hours apart.

C. The alternative methods provided for in this condition shall only be used in the event of a malfunction or breakdown of the H_2S monitoring systems, i.e., not during periods when a monitoring system is functioning properly to collect valid data.

v. These H_2S monitors shall be tested at least every 12 months in accordance with 40 CFR 60, Appendix B, Performance Specification 7. The results of these tests shall be sent to the IEPA's Division of Air Pollution, Control Permit Section and Regional Office within 14 days after summarizing of results. In addition, the results shall be maintained in accordance with the recordkeeping specified in this permit. For the H_2S monitoring system for COG exiting the by-product plant, this testing shall be conducted as follows:

A. The H_2S content in grains per standard cubic foot of COG shall be determined using 40 CFR 60, Appendix A, Method 11 as adapted to measure higher ranges of H_2S.

B. The following revisions shall be made to Method 11 to allow the measuring of higher ranges of H_2S:

1. Diluent air shall mean air containing less than 0.5 ppm total sulfur compounds and less than 10 ppm each of moisture and hydrocarbons.

2. 7.0 Procedure - Located after the sampling valve, there will be a gas mixing box with a metered supply of (heated) diluent air. This metered supply of diluent air will be introduced prior to sampling and adjusted so that the final dilution of the sample will be 1:20 (i.e., 0.05 liters/min of sample to 0.95 liters/min of dilution air).

3. 9.4 - Vm = Volume of gas sample through the gas meter (meter conditions), liters/20.

Vm_{CSTD} = (Corrected) volume at standard conditions of gas sampled through the dry gas meter. (Standard Liters).

vi. In the event of malfunction or breakdown of the H2S monitoring systems, the Permittee shall repair and recalibrate the meter or monitoring systems as soon as practicable but no later than 10 days after the malfunction or breakdown is detected, unless prior Illinois EPA approval is obtained by submitting adequate justification to the Illinois EPA detailing the reasons for delay. Records of repair and recalibration must be maintained in accordance with the recordkeeping requirements of this permit. This condition does not relieve the Permittee of the minimum data collection requirements of this permit.

g. The Permittee shall equip the thermal oxidizer in the COG-DS with a continuous monitoring system, which shall be calibrated, maintained, and operated at all times the COG-DS thermal oxidizer is in operation, to monitor the combustion chamber temperature of the thermal oxidizer [Sections 39.5(7)(a) and (d) of the Act].

h. The Permittee shall sample and analyze the COG exiting the byproduct plant and treated COG from the COG-DS for PM content using appropriate ASTM methods or other comparable methodology. These measurements shall be conducted at least annually. The records for this activity shall also include data for the H_2S content of COG at the time of sampling [Sections 39.5.7(a) and (d) of the Act].

7.3.10 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected by-product recovery plant, the COG-DS and COG flare, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. 40 CFR Part 61 Subpart L (40 CFR 61.138):

i. The following information pertaining to the design of control equipment installed to comply with 40 CFR 61.132 through 61.134 shall be recorded and kept in a readily accessible location:

A. Detailed schematics, design specifications, and piping and instrumentation diagrams.

B. The dates and descriptions of any changes in the design specifications.

ii. The following information pertaining to sources subject to 40 CFR 61.132 and sources subject to 40 CFR 61.133 shall be recorded and maintained for 2 years following each semiannual (and other) inspection and each annual maintenance inspection:

A. The date of the inspection and the name of the inspector.

B. A brief description of each visible defect in the source or control equipment and the method and date of repair of the defect.

C. The presence of a leak, as measured using the method described in 40 CFR 61.245(c). The record shall include the date of attempted and actual repair and method of repair of the leak.

D. A brief description of any system abnormalities found during the annual maintenance inspection, the repairs made, the date of attempted repair, and the date of actual repair.

b. 40 CFR Part 61 Subpart FF (40 CFR 61.356):

i. Each owner or operator of a facility subject to the provisions of Subpart FF shall comply with the recordkeeping requirements of 40 CFR 61.356. Each record shall be maintained in a readily accessible location at the facility site for a period not less than two years from the date the information is recorded unless otherwise specified [40 CFR 61.356(a)].

ii. Each owner or operator shall maintain records that identify each waste stream at the facility subject to Subpart FF, and indicate whether or not the waste stream is controlled for benzene emissions in accordance with this subpart. In addition the owner or operator shall maintain the following records [40 CFR 61.356(b)]:

A. For each waste stream not controlled for benzene emissions in accordance with Subpart FF, the records shall include all test results, measurements, calculations, and other documentation used to determine the following information for the waste stream: waste stream identification, water content, whether or not the waste stream is a process wastewater stream, annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity.

B. For each waste stream exempt from 40 CFR 61.342(c)(1) in accordance with 40 CFR 61.342(c)(3), the records shall include:

1. All measurements, calculations, and other documentation used to determine that the continuous flow of process wastewater is less than 0.02 liters (0.005 gallons) per minute or the annual waste quantity of process wastewater is less than 10 Mg/yr (11 ton/yr) in accordance with 40 CFR 61.342(c)(3)(i), or

2. All measurements, calculations, and other documentation used to determine that the sum of the total annual benzene quantity in all exempt waste streams does not exceed 2.0 Mg/yr (2.2 ton/yr) in accordance with 40 CFR 61.342(c)(3)(ii).

C. For each facility where process wastewater streams are controlled for benzene emissions in accordance with 40 CFR 61.342(d), the records shall include for each treated process wastewater stream all measurements, calculations, and other documentation used to determine the annual benzene quantity in the process wastewater stream exiting the treatment process.

D. For each facility where waste streams are controlled for benzene emissions in accordance with 40 CFR 61.342(e), the records shall include for each waste stream all measurements, including the locations of the measurements, calculations, and other documentation used to determine that the total benzene quantity does not exceed 6.0 Mg/yr (6.6 ton/yr).

E. For each facility where the annual waste quantity for process unit turnaround waste is determined in accordance with 40 CFR

61.355(b)(5), the records shall include all test results, measurements, calculations, and other documentation used to determine the following information: identification of each process unit at the facility that undergoes turnarounds, the date of the most recent turnaround for each process unit, identification of each process unit turnaround waste, the water content of each process unit turnaround waste, the annual waste quantity determined in accordance with 40 CFR 61.355(b)(5), the range of benzene concentrations in the waste, the annual average flow-weighted benzene concentration of the waste, and the annual benzene quantity calculated in accordance with 40 CFR 61.355(a)(1)(iii).

F. For each facility where wastewater streams are controlled for benzene emissions in accordance with 40 CFR 61.348(b)(2), the records shall include all measurements, calculations, and other documentation used to determine the annual benzene content of the waste streams and the total annual benzene quantity contained in all waste streams managed or treated in exempt waste management units.

iii. An owner or operator shall maintain a record for each visual inspection required by 40 CFR 61.343 through 61.347 that identifies a problem (such as a broken seal, gap or other problem) which could result in benzene emissions. The record shall include the date of the inspection, waste management unit and control equipment location where the problem is identified, a description of the problem, a description of the corrective action taken, and the date the corrective action was completed [40 CFR 61.356(g)].

c. 40 CFR Part 61 Subpart V (40 CFR 61.246):

i. A. Each owner or operator subject to the provisions of Subpart V shall comply with the recordkeeping requirements of 40 CFR 61.246 [40 CFR 61.246(a)(1)].

B. An owner or operator of more than one process unit subject to the provisions of Subpart V may comply with the recordkeeping requirements for these process units in one recordkeeping system if the system identifies each record by each process unit [40 CFR 61.246(a)(2)].

ii. When each leak is detected as specified in 40 CFR 61.242-2, 61.242-3, 61.242-7, 61.242-8, and 61.135,

the following requirements apply to the Permittee [40 CFR 61.246(b)]:

A. A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

B. The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 40 CFR 61.242-7(c) and no leak has been detected during those 2 months.

C. The identification on equipment, except on a valve, may be removed after it has been repaired.

iii. When each leak is detected as specified in 40 CFR 61.242-2, 61.242-3, 61.242-7, 61.242-8, and 61.135, the following information shall be recorded by the Permittee in a log and shall be kept for 2 years in a readily accessible location [40 CFR 61.246(c)]:

A. The instrument and operator identification numbers and the equipment identification number.

B. The date the leak was detected and the dates of each attempt to repair the leak.

C. Repair methods applied in each attempt to repair the leak.

D. Above 10,000 if the maximum instrument reading measured by the methods specified in 40 CFR 61.245(a) after each repair attempt is equal to or greater than 10,000 ppm.

E. Repair delayed and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

F. The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

G. The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

H. Dates of process unit shutdowns that occur while the equipment is unrepaired.

I. The date of successful repair of the leak.

iv. The following information pertaining to all equipment to which a standard applies shall be recorded in a log that is kept in a readily accessible location by the Permittee [40 CFR 61.246(e)]:

A. A list of identification numbers for equipment (except welded fittings) subject to the requirements of Subpart V.

B. 1. A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions as indicated by an instrument reading of less than 500 ppm above background.

2. The designation of this equipment for no detectable emissions shall be signed by the owner or operator.

C. A list of equipment identification numbers for pressure relief devices required to comply with 40 CFR 61.242-4(a).

D. 1. The dates of each compliance test required in 40 CFR 61.242-2(e), 61.242-3(i), 61.242-4, 61.242-7(f), and 61.135(g).

2. The background level measured during each compliance test.

3. The maximum instrument reading measured at the equipment during each compliance test.

E. A list of identification numbers for equipment in vacuum service.

v. The following information pertaining to all valves subject to the requirements of 40 CFR 61.242-7(g) and (h) and to all pumps subject to the requirements of 40 CFR 61.242-2(g) shall be recorded by the Permittee in a log that is kept in a readily accessible location [40 CFR 61.246(f)]:

A. A list of identification numbers for valves and pumps that are designated as unsafe to monitor, an explanation for each valve or pump stating why the valve or pump is unsafe to monitor, and the plan for monitoring each valve or pump.

B. A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.

vi. The following information shall be recorded by the Permittee for valves complying with 40 CFR 61.243-2 [40 CFR 61.246(g)]:

A. A schedule of monitoring.

B. The percent of valves found leaking during each monitoring period.

vii. The following information shall be recorded in a log by the Permittee that is kept in a readily accessible location [40 CFR 61.246(h)]:

A. Design criterion required in 40 CFR 61.242-2(d)(5), 61.242-3(e)(2), and 61.135(e)(4) and an explanation of the design criterion; and

B. Any changes to this criterion and the reasons for the changes.

viii. The following information shall be recorded in a log by the Permittee that is kept in a readily accessible location for use in determining exemptions as provided in the applicability section of this subpart and other specific Subparts [40 CFR 61.246(i)]:

A. An analysis demonstrating the design capacity of the process unit, and

B. An analysis demonstrating that equipment is not in VHAP service.

ix. Information and data used to demonstrate that a piece of equipment is not in VHAP service shall be recorded in a log by the Permittee that is kept in a readily accessible location [40 CFR 61.246(j)].

d. The Permittee shall keep the following records for the COG flare [Section 39.5(7)(e) of the Act]:

i. Records of inspections and maintenance or repair activities conducted pursuant to Condition 7.3.9(e)(ii).

ii. H_2S content in the COG with supporting calculations of SO_2 emissions from the flare.

e. The following records for the COG-DS pursuant to Permit 06070022:

i. Temperature monitoring system for thermal oxidizer on the Claus Sulfur Recovery Unit:

A. Recorded data.

B. A log of operating time for the control system or devices, monitoring system, and the coke oven byproducts plant.

C. A maintenance log for the oxidizer and monitoring device detailing all routine and non-routine maintenance performed including dates and duration of any outages.

ii. Operating Records for the Packed Tower Amine Unit:

A. Amine temperature leaving the unit (°F).

B. Amine flow (gallons/minute).

C. COG flow into or out of the unit.

iii. Logs:

A. Operating logs.

B. Maintenance logs detailing all routine and non-routine maintenance performed including dates and duration of any outages.

iv. Production Records:

A. COG production during periods of time when the COG-DS is operating (mmscf/month and mmscf/year).

B. COG production during periods of time when the COG-DS is not operating (mmscf/month and mmscf/year).

v. Records of H_2S content in COG, with supporting data and calculations:

A. H_2S content of COG exiting the by-product plant, daily average.

B. H_2S content of COG, annual average.

C. H_2S content of treated COG, excluding outages, startup, shutdown, and upsets, monthly average.

vi. Emission Records for the COG Desulfurization System (Claus Sulfur Recovery Unit) [Sections 39.5.7(a) and (d) of the Act]

A. A file containing the emission factors used by the Permittee to determine emissions of PM_{10} and SO_2 from the Claus Sulfur Recovery Unit, with supporting documentation. These records shall be reviewed and updated by the Permittee as necessary to assure that the emission factors that it uses to determine emissions of this unit do not understate actual emissions. These records shall be prepared and copies sent to the Illinois EPA in accordance with Condition 5.9.6(c).

B. Engineering calculations for typical and maximum hourly PM_{10} and SO_2 emissions (lbs/hour) Claus Sulfur Recovery Unit, with supporting documentation.

C. Records for the concentration of SO_2 and H_2S (percent by volume) in the tail gas of the Claus Sulfur Recovery Unit, which is sent to the thermal oxidizer, as measured by process instrumentation.

D. Records for any periods of operation of the Claus Sulfur Recovery Unit that are not otherwise addressed in the required records during which the established emission factor in Condition 7.3.10(e)(vi)(A) would understate actual emissions of this unit, with description of the period of operation and an estimate of the additional emissions during such period that would not be accounted for by the established factor, with supporting explanation and calculations.

D. Records for any periods of operation of the Claus Sulfur Recovery Unit that are not otherwise addressed in the required records during which the established emission rate in Condition 7.3.10(e)(vi)(B) would understate the actual emissions of this unit, with description of the period of operation, including date, time and duration, explanation, and an estimate of the additional emissions during such period that would not be accounted for by the established rate, with supporting explanation and calculations.

F. Records for the annual PM_{10} and SO_2 emissions of the Claus Sulfur Recovery Unit for comparison to the limits in Conditions 7.3.7(e), with supporting calculations.

Note: Records for PM_{10} and SO_2 emissions associated with combustion of COG at the facility are contained in Condition 5.9.1(e).

f. The following records for the H_2S monitoring system for COG exiting the by-product plant, pursuant to FESOP 94120017:

i. The hourly average, 3-hour average and daily average H_2S content of the COG in grains per standard cubic foot.

ii. The H_2S monitor strip chart or disk storage.

iii. Thousand standard cubic feet of COG used per 3-hours for slab reheat furnaces 1-3 and ladle drying preheaters and per day for each unit operating group.

iv. The calibration, maintenance and repair of the H_2S monitor used in compliance calculations.

g. Other Records

i. Records of the amount of raw coke oven gas being received from the coke ovens (scf/mo and acf/yr).

ii. Records of the following by-products being produced:

A. Clean coke oven gas (scf/mo and scf/yr);

B. Light oil (gal/mo and gal/yr); and

C. Tar (ton/mo and ton/yr).

iii. If the Permittee operates under manufacturer's specifications or manufacturer's instructions, such manufacturer's documentation shall be kept at the source as part of the required records.

iv. Records of annual benzene waste generated on site (tons/yr).

v. Annual emissions of VOM from the affected by-product recovery plant.

h. Records for Malfunctions or Breakdowns

Pursuant to 35 IAC 201.263, the Permittee shall maintain records of continued operation of the affected COG flare as addressed by Condition 7.3.5 during malfunctions or breakdowns, which at a minimum, shall include the following records. The preparation of these records shall be completed within 45 days of an incident, unless the Permittee conducts a root cause analysis for the incident, in which case the preparation of these records, other than

the root cause analysis, shall be completed within 120 days of the incident.

i. Date, time and duration of the incident.

ii. A detailed description of the incident, including:

A. A chronology of significant events during and leading up to the incident.

B. Relevant operating data for the unit, including information such as operator log entries and directives provided by management during the incident.

C. The measures taken to reduce the quantity of emissions and the duration of the incident including the resources utilized to address the incident.

D. The magnitude of emissions during the incident.

iii. An explanation why continued operation of an affected COG flare was necessary to prevent personnel injury or prevent equipment damage.

iv. A discussion of the cause(s) or probable cause(s) of the incident including the following:

A. Whether the incident was sudden, unavoidable, or preventable, including:

1. Why the equipment design did not prevent the incident;

2. Why better maintenance could not have avoided the incident;

3. Why better operating practices could not have avoided the incident; and

4. Why there was no advance indication for the incident.

B. Whether the incident stemmed from any activity or event that could have been foreseen, avoided or planned for.

C. Whether the incident was or is part of a recurring pattern indicative of inadequate design, operation or maintenance.

v. A description of any steps taken or to be taken to prevent similar future incidents or reduce their frequency and severity.

vi. As an alternative to keeping the records required by Condition 7.3.10(h)(iv), the Permittee may perform a root cause analysis. For this purpose, a root cause analysis is an analysis whose purpose is to determine, correct and eliminate the primary causes of the incident and the excess emissions resulting there from. If the Permittee performs a root cause analysis method that would define the problem, define all causal relationships, provide a causal path to the root cause, delineate the evidence, and provide solutions to prevent a recurrence. Such an analysis shall be completed within one year of the incident.

7.3.11 Reporting Requirements

The Permittee shall submit the following reports pursuant to Section 39.5(7)(a) and (c) of the Act:

a. 40 CFR 61 Subpart L (40 CFR 61.138):

i. A report shall be submitted to the Illinois EPA semiannually starting 6 months after the initial reports required in 40 CFR 61.138(e) and 40 CFR 61.10, which includes the following information [40 CFR 61.138(f)]:

A. For sources subject to 40 CFR 61.132 and sources subject to 40 CFR 61.133:

1. A brief description of any visible defect in the source or ductwork;

2. The number of leaks detected and repaired; and

3. A brief description of any system abnormalities found during each annual maintenance inspection that occurred in the reporting period and the repairs made.

B. For equipment in benzene service subject to 40 CFR 61.135(a), information required by 40 CFR 61.247(b).

C. For each exhauster subject to 40 CFR 61.135 for each quarter during the semiannual reporting period:

1. The number of exhausters for which leaks were detected as described in 40 CFR 61.135(d) and (e)(5);

2. The number of exhausters for which leaks were repaired as required in 40 CFR 61.135(d) and (e)(6); and

3. The results of performance tests to determine compliance with 40 CFR 61.135(g) conducted within the semiannual reporting period.

D. A statement signed by the owner or operator stating whether all provisions of 40 CFR part 61, subpart L, have been fulfilled during the semiannual reporting period.

b. 40 CFR 61 Subpart V (40 CFR 61.247):

i. An owner or operator of any piece of equipment to which Subpart V applies shall submit a statement in writing notifying the Illinois EPA that the requirements of 40 CFR 61.242, 61.245, 61.246, and 61.247 are being implemented [40 CFR 61.247(a)(1)].

ii. A report shall be submitted to the Illinois EPA semiannually starting 6 months after the initial report required in 40 CFR 61.247(a), that includes the following information [40 CFR 61.247(b)]:

A. Process unit identification.

B. For each month during the semiannual reporting period:

1. Number of valves for which leaks were detected as described in 40 CFR 61.242-7(b) of 61.243-2.

2. Number of valves for which leaks were not repaired as required in 40 CFR 61.242-7(d).

3. Number of pumps for which leaks were detected as described in 40 CFR 61.242-2(b) and (d)(6).

4. Number of pumps for which leaks were not repaired as required in 40 CFR 61.242-2(c) and (d)(6).

5. Number of compressors for which leaks were detected as described in 40 CFR 61.242-3(f).

6. Number of compressors for which leaks were not repaired as required in 40 CFR 61.242-3(g).

7. The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible.

C. Dates of process unit shutdowns which occurred within the semiannual reporting period.

D. Revisions to items reported according to 40 CFR 61.247(a) if changes have occurred since the initial report or subsequent revisions to the initial report.

E. The results of all performance tests and monitoring to determine compliance with no detectable emissions and with 40 CFR 61.243-1 and 61.243-2 conducted within the semiannual reporting period.

c. 40 CFR 61 Subpart FF (40 CFR 61.357)

i. If the total annual benzene quantity from facility waste is less than 1 Mg/yr (1.1 ton/yr), then the owner or operator shall submit to the Illinois EPA and the Administrator a report that updates the information listed in 40 CFR 61.357(a)(1) through (a)(3) whenever there is a change in the process generating the waste stream that could cause the total annual benzene quantity from facility waste to increase to 1 Mg/yr (1.1 ton/yr) or more [40 CFR 61.357(b)].

ii. If the total annual benzene quantity from facility waste is less than 10 Mg/yr (11 ton/yr) but is equal to or greater than 1 Mg/yr (1.1 ton/yr) then the owner or operator shall submit to the Illinois EPA and the Administrator a report that updates the information listed in 40 CFR 61.357 (a)(1) through (a)(3). The report shall be submitted annually and whenever there is a change in the process generating the waste stream that could cause the total annual benzene quantity from facility waste to increase to 10 Mg/yr (11 ton/yr) or more. If the information in the annual report required by 40 CFR 61.357 (a)(1) through (a)(3) is not changed in the following year, the owner or operator may submit a statement to that effect [40 CFR 61.357(c)].

iii. If the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr (11 ton/yr), then the owner or operator shall submit to the Illinois EPA and the Administrator reports described in 40 CFR 61.357(d) [40 CFR 61.357(d)].

d. i. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the Illinois EPA, Air Compliance Section, within 30 days of deviations by the affected coke by-product recovery plant, COG system and COG flare from applicable requirements, unless a NESHAP standard specifies a different timeframe, as follows:

A. Requirements in Condition 7.3.3(e), (f) and (g).

B. Requirements in Condition 7.3.6.

C. Requirements in Condition 7.3.7.

ii. All such deviations shall be summarized and reported as part of the semiannual monitoring report required by Condition 8.6.1.

iii. The Permittee shall notify the Illinois EPA, Air Compliance Section, of all other deviations as part of the semiannual monitoring reports required by Condition 8.6.1.

iv. All required deviation reports described in Condition 7.3.11(d) above shall contain the following information:

A. Date, time and duration of the deviation;

B. Description of the deviation;

C. Probable cause of the deviation; and

D. Any corrective action or preventive measures taken.

e. Reporting on the State malfunction and breakdown authorization shall be performed in accordance with Condition 5.10.5-2.

f. Reporting on the Federal SSM authorization shall be performed in accordance with Condition 5.10.5-3.

7.3.12 Operational Flexibility/Anticipated Operating Scenarios

The following requirements established by Construction Permit 09030019 shall be followed during idling of the affected coke batteries and coke by-product recovery plant:

This permit authorizes operation of adsorber systems to control emissions from the equipment in the Coke By-Product Recovery Plant, as an alternative to the various blanketing systems on the by-products plant during idling or other interruptions in

these blanketing systems, as addressed by Permit 09030019, subject to the following requirements:

a. Each system will use a canister-type vessel containing activated carbon to "filter" organic material from the exhaust from the units. The adsorber vessels will not be regenerated on-site but replaced when the capacity of the vessel to adsorb organic material is approached.

b. Various equipment or affected operations at the by-products plant, including processing vessels such as tar decanters, light oil decanters and storage tanks which are subject to NESHAP (the associated operations).

i. The affected adsorbers shall be designed and operated to achieve at least 98 percent control of emissions of benzene from the associated operations, as required by 40 CFR 61.139(a), with compliance determined in accordance with applicable requirements of 40 CFR 61.139(b) and (h).

ii. As the by-products plant is subject to 40 CFR 61, Subpart L, the Permittee will continue to be subject to applicable requirements of 40 CFR 61, Subpart A, General Provisions for associated operations, including 40 CFR 61.12(c), which requires that the Permittee maintain and operate these operations, including associated equipment for air pollution control, in a manner consistent with good air pollution control practice for minimizing emissions.

iii. A. The Permittee shall have access to sampling equipment and other capabilities necessary to conduct monitoring for the affected adsorbers, i.e., operational measurements for the concentration of benzene or hydrocarbons in the exhaust from the adsorbers.

B. While the adsorbers serve to control emissions from the associated operations, the Permittee shall conduct applicable monitoring for the affected adsorbers required by 40 CFR 61, Subparts A and L, including 40 CFR 61.139(e).

iv. For the associated operations while controlled by the adsorbers, the Permittee shall fulfill applicable recordkeeping requirements of 40 CFR 61, Subparts A and L, including 40 CFR 61.139(i).

v. The Permittee shall keep a file for each adsorber system that contains documentation for the adsorption capacity of the adsorption vessel and engineering calculations for the rate at which the associated operations would generate emissions and the expected operating life of an adsorption vessel in days.

vi. The operating records that the Permittee maintains for the associated operations and adsorbers shall include the following information, in addition to other required information:

A. The date that an adsorber vessel is switched out, with reason and measured hydrocarbon concentration in the exhaust prior to switchout.

B. For periods when the adsorbers operated properly, i.e., in accordance with Condition 7.3.12(a), relevant information to generally confirm proper operation.

C. For periods when an adsorber did not operate properly, identification of each such period and the associated operations that were operating, with detailed information describing: 1) The operation of the adsorber, including the monitored exhaust concentration; 2) The potential consequences for additional emissions of organic material with an estimate of the additional emissions, with explanation; 3) The actions taken to restore proper operation; and 4) Any actions taken to prevent similar events in the future.

vii. The maintenance records that the Permittee maintains for the associated operations and adsorbers shall include the following information, in addition to other required information:

A. Until the operations are idled, date and time that an inspection or maintenance/repair activity on the units was performed, with description of activity and name(s) of the responsible personnel.

B. While the associated operations are idled, date and time that an inspection or maintenance/repair activity for the preservation measures on the operations was performed, with description of activity and name(s) of the responsible personnel.

viii. The Permittee shall fulfill applicable reporting requirements of 40 CFR 61, Subparts A and L, for the associated operations while they are controlled by the affected adsorbers.

ix. The Permittee shall notify the Illinois EPA of the following events for the coke by-product plant:

A. The date that existing control systems for the plant are shut off, within 15 days of such date. This report shall describe any difficulties that were encountered in the transition to control with the affected adsorbers, confirm the integrity of the ductwork of each affected adsorber, and include the results of initial measurements for the hydrocarbon concentrations in the exhaust from each affected adsorber, conducted in accordance with Condition 7.3.12(a).

B. The date that operation of all adsorbers is no longer required by 40 CFR 61, Subpart L, within 30 days of such date. This report shall indicate the date when the emptying and cleaning of each group of the associated operations was completed, the current status of each affected adsorber (i.e., physically removed from the plant, scheduled to be removed, or left in place pending further developments), and the actions that are planned to maintain the condition and integrity of the affected associated operations while they are idle.

Note: During a period when the affected plant is idle, even if all associated operations are cleaned and emptied, the Permittee must continue to submit the routine semiannual compliance reports required by 40 CFR 61, Subpart L.

C. The date that resumption of normal operation of the by-product plant is planned, at least 10 days prior to such date. This report shall generally describe the sequence of events that will accompany resumption of operation of the existing control systems for the plant.

7.3.13 Compliance Procedures

For the affected coke by-product recovery plant, COG system and COG flare, compliance with Conditions 7.3.3 and 7.3.7 is addressed by the work practices, testing, monitoring, recordkeeping and reporting requirements in Section 7.3 of this permit.

7.3.14 State-Only Conditions

State-only conditions are not being established.

7.4 Blast Furnaces

7.4.1 Description

Blast Furnaces and Casthouse:

Iron ore is converted to molten iron in the "A" and "B" Blast Furnaces. Iron ore, coke and a variety of fluxes (collectively called the burden) are charged into the top of the furnace, while heated air is blown up through the burden at a high velocity. Molten iron and slag accumulate in the bottom of the furnace, where a taphole is periodically drilled. The molten iron and slag pour out of the furnace into a trough, where the slag is separated from the iron. The iron moves down runners until it pours into torpedo cars. From here, the iron is taken to the Basic Oxygen Furnace (BOF) shop, where it is converted into steel. The slag travels down a separate runner and dumps into the slag pits. The molten slag is quenched with a mixture of water and potassium permanganate solution.

Charging of the Blast Furnace generates particulate matter emissions. Each furnace has a double-bell system to minimize emissions from charging.

Casthouse emissions consisting of particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide, and organic materials are generated during tapping of the furnace and the miscellaneous operations that take place within the casthouse structure. Emissions are controlled by the Casthouse Baghouse and the Iron Spout Baghouse.

Emissions may also be discharged from a blast furnace during startup, malfunctions and shutdowns for routine maintenance. Each furnace is equipped with bleeder valves which will relieve to the atmosphere if the furnace becomes over pressurized. This can occur during furnace slops when material in the furnace bridges forming a void and then collapses. Slips can cause over pressurization. In this condition, the stock in the furnace will bridge and cause a void to develop. The void will increase until the bridge collapses. Backdrafting of the blast furnaces is conducted to perform certain repairs, both routine and non-routine. Steam is utilized to draw furnace gases back through the tuyeres and out of backdraft stacks.

Blast Air Stoves:

The blast air stoves heat the blast air for the blast furnaces. Emissions from the stoves consist of particulate matter, sulfur dioxide, nitrogen oxides, and carbon monoxide generated as by-products of the combustion of Blast Furnace Gas (BFG) and Coke Oven Gas (COG). In addition, the blast furnaces can also use fuel oil in the event that other fuels are not available.

The byproduct gases from the blast furnaces are first cleaned in a BFG Pretreatment system with mechanical separation and water

wash to remove entrained dust and are then combusted in the stoves for the blast furnaces and other units at the source. BFG is primarily made up of carbon monoxide. The heat generated by the combustion of these gases is used to heat the brick inside of the stoves. The air flow is switched and this stored heat is then transferred to the blast air that is blown into the blast furnaces as part of the iron making process. There are three stoves for each furnace, which enables a continuous supply of blast air to the blast furnace. Only two of the three stoves will burn at any given time. All three stoves are exhausted to a common stack.

Excess BFG is also used in the various other fuel combustion emission units at the source. BFG that cannot be used as fuel is flared in either BFG flare #1 or #2.

Note: This narrative description is for informational purposes only and is not enforceable.

7.4.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Blast Furnaces	• Blast Furnaces (A and B including charging and BFG pretreatment system)	Before 1972	None
	• Blast Furnace Casthouse (Tapping, Iron and Slag Runner, Slag Pits and Torpedo Car Loading Emissions From A and B Furnaces)		Casthouse Baghouse; and Iron Spout Baghouse;
	• Blast Furnace Gas Flare #1		None
	• (6) Blast Air Stoves (BFG, COG and natural Gas) (3 per each furnace)	Before 1972	None
	• Blast Furnace Gas Flare #2	2008	None
	• Slag pits	Before 1972	None

7.4.3 Applicable Provisions

a. The "affected blast furnace processes" for the purpose of these unit-specific conditions, are the emission units and activities described in Conditions 7.4.1 and 7.4.2.

b. Pursuant to 35 IAC 212.445, emissions of PM shall not exceed the following limits:

i. Uncaptured particulate matter from any opening in a blast furnace cast house shall not exceed 20 percent opacity on a six (6) minute rolling average basis beginning from initiation of the opening of the tap hole up to the point where the iron and slag stops flowing in the trough. Opacity observations shall be taken in accordance with the procedures of 40 CFR 60, Appendix A, Method 9 [35 IAC 212.445(a)].

ii. A. Particulate matter emissions from control equipment used to collect any of the emissions from the tap hole, trough, iron or slag runners or iron or slag spouts shall not exceed 0.023 g/dscm (0.010 gr/dscf). Compliance with this standard shall be determined in accordance with the procedures set out in 40 CFR 60, Appendix A, Methods 1 through 5, incorporated by reference in 35 IAC 212.113 and shall be based on the duration of a cast. For this purpose, a cast is defined as the initiation of the opening of the tap hole up to the point where the iron and slag stop flowing through the trough consistent with 35 IAC 212.445(a)(i) [35 IAC 212.445(b)(1)].

B. The opacity of emissions from control equipment used to collect any of the particulate matter emissions from the tap hole, trough, iron or slag runners or iron or slag spouts shall not exceed 10 percent on a six (6) minute rolling average basis [35 IAC 212.445(b)(2)].

c. Pursuant to 35 IAC 214.301, the affected blast furnace processes shall comply with the following: no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to exceed 2000 ppm.

d. The affected blast furnace processes other than the cast house are subject to 35 IAC 212.123(a), which provides that no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, except as allowed by 35 IAC 212.123(b) and 212.124.

e. Pursuant to 40 CFR 63.7790(a) and Paragraph 7 of Table 1, of 40 CFR 63 Subpart FFFFF, the emissions shall not exceed the following limits from each casthouse at an existing blast furnace:

i. Particulate matter emissions from a control device shall not exceed 0.01 gr/dscf; and

ii. Any secondary emissions that exit any opening in the casthouse or structure housing the blast furnace shall not exceed opacity greater than 20 percent (6 minute average).

f. Pursuant to 40 CFR 63.7790(b)(1), the Permittee must operate each capture system applied to emissions from blast furnace casthouse at or above the lowest value or settings established for the operating limits in the Permittee's operation and maintenance plan.

g. Pursuant to 35 IAC 212.316(f), uncaptured particulate matter emissions from blast furnace charging shall not exceed opacity of 20 percent.

h. Pursuant to 35 IAC 212.458(b)(7) and (c), blast furnace stoves shall comply with the following: No person shall cause or allow emissions of PM_{10} into the atmosphere to exceed 22.9 mg/scm (0.01 gr/scf) during any one hour period, provided that this limit shall not apply if there are no visible emissions, except if a stack test is performed, the absence of visible emissions is not a defense to a finding violation.

7.4.4 Non-Applicability of Regulations of Concern

a. The emission limitations of 35 IAC 212.324 are not applicable to any affected blast furnace processes that are subject to a specific emissions standard or limitation contained in 35 IAC Part 212 Subpart R, Primary and Fabricated Metal Products and Machinery Manufacture, pursuant to 35 IAC 212.324 (a)(3).

b. The affected blast furnace processes are not subject to 35 IAC 212.321 and 35 IAC 212.322, pursuant 35 IAC 212.441, which provides that, except where noted, 35 IAC 212.321 and 212.322 shall not apply to the steel manufacturing processes subject to 35 IAC 212.442 through 35 IAC 212.452.

c. This permit is issued based on the affected blast furnace processes not being subject to the applicable requirements of 35 IAC 219.301 because the affected processes do not emit photochemically reactive organic material as defined in 35 IAC 211.4690.

d. The affected blast furnace processes are not subject to 35 IAC 216.121 because the affected blast furnace processes are not the fuel combustion emission sources, as defined 35 IAC 211.2470.

e. Pursuant to 40 CFR 63.7491(g), the Blast Furnace Stoves are not subject to any applicable requirements in 40 CFR Part

63, Subpart DDDDD, NESHAP: Industrial, Commercial, and Institutional Boilers and Process Heaters.

7.4.5-1 Work Practices: Operation and Maintenance Plan (40 CFR 63.7800)

a. As required by 40 CFR 63.6(e)(1)(i), the Permittee shall always operate and maintain the affected blast furnace processes that are subject 40 CFR 63 Subpart FFFFF, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by 40 CFR 63 Subpart FFFFF.

b. The Permittee shall prepare and operate at all times each capture system or control device according to a written operation and maintenance plan for affected blast furnace casthouse. Each written operation and maintenance plan shall address the following elements:

i. Monthly inspections of the equipment that is important to the performance of the total capture system (*e.g.*, pressure sensors, dampers, and damper switches). This inspection must include observations of the physical appearance of the equipment (*e.g.*, presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). The operation and maintenance plan also must include requirements to repair any defect or deficiency in the capture system before the next scheduled inspection.

ii. Preventative maintenance for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

iii. Operating limits for each capture system applied to emissions from a blast furnace casthouse. The Permittee shall establish the operating limits according to the following requirements in 40 CFR 63.7800(b)(3)(i) through (iii):

A. Select operating limit parameters appropriate for the capture system design that are representative and reliable indicators of the performance of the capture system. At a minimum, the Permittee shall use appropriate operating limit parameters that indicate the level of the ventilation draft and the damper position settings for the capture system when operating to collect emissions, including revised settings for seasonal variations.

Appropriate operating limit parameters for ventilation draft include, but are not limited to, volumetric flow rate through each separately ducted hood, total volumetric flow rate at the inlet to the control device to which the capture system is vented, fan motor amperage, or static pressure.

B. For each operating limit parameter selected as described above, the Permittee shall designate the value or setting for the parameter at which the capture system operates during the process operation. If the operation allows for more than one process to be operating simultaneously, the Permittee shall designate the value or setting for the parameter at which the capture system operates during each possible configuration that the source may operate.

C. Include documentation in the plan to support selection of the operating limits established for the capture system. This documentation must include a description of the capture system design, a description of the capture system operating during production, a description of each selected operating limit parameter, a rationale for why the Permittee chose the parameter, a description of the method used to monitor the parameter according to the requirements of 40 CFR 63.7830(a), and the data used to set the value or setting for the parameter for each process configurations.

iv. Pursuant to 40 CFR 63.7800(b)(4), corrective action procedures for baghouses equipped with bag leak detection systems. In the event a bag leak detection system alarm is triggered, the Permittee shall initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete the corrective action. Corrective actions may include, but are not limited to:

A. Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions [40 CFR 63.7800(b)(4)(i)].

B. Sealing off defective bags or filter media [40 CFR 63.7800(b)(4)(ii)].

C. Replacing defective bags or filter media or otherwise repairing the control device [40 CFR 63.7800(b)(4)(iii)].

D. Sealing off a defective baghouse compartment [40 CFR 63.7800(b)(4)(iv)].

E. Cleaning the bag leak detection system probe, or otherwise repair the bag leak detection system [40 CFR 63.7800(b)(4)(v)].

F. Shutting down the process producing the particulate emissions [40 CFR 63.7800(b)(4)(vi)].

7.4.5-2 Work Practices: Startup, Shutdown and Malfunction

a. Provisions Related to 40 CFR 63, Subpart FFFFF

i. Pursuant to 40 CFR 63.7810, the Permittee must be in compliance with the emission limitations and operation and maintenance requirements in 40 CFR 63 Subpart FFFFF at all times, except during periods of startup, shutdown and malfunction as defined in 40 CFR 63.2

ii. Pursuant to 40 CFR 63.7810(c), the Permittee shall develop a written startup, shutdown, and malfunction plan for the affected blast furnaces and casthouses according to the provisions established in 40 CFR 63.6(e)(3).

iii. Pursuant to 40 CFR 63.7835, consistent with 40 CFR 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates that it was operating in accordance with 40 CFR 63.6(e)(1).

iv. The Permittee shall fulfill the applicable reporting requirements identified in 40 CFR 63.10(d) (Condition 5.10.5(b)) and 40 CFR 63.7841(b)(4).

v. The Permittee shall keep records in accordance with 40 CFR 63.7842(a)(2) related to startup, shutdown and malfunction.

b. Startup and Malfunction/Breakdown Authorizations

i. Malfunction and Breakdown, pursuant to 201.149 and Part 201, Subpart I

A. Subject to the following terms and conditions, the Permittee is authorized to continue operation of the affected blast furnace processes in excess of the applicable state standards in 35 IAC 212.445(b)(1) in the event of a malfunction or breakdown. This shall include blast furnace over pressurization, slips, use of auxiliary tap-holes, and back-drafting associated with periods of malfunction and breakdown.

Note: This authorization is provided because the Permittee applied for such authorization in its CAAPP application, generally explaining why such continued operation would be required to prevent injury to personnel or severe damage to equipment, and describing the measures that will be taken to minimize emissions from any malfunctions and breakdowns.

B. This authorization only allows such continued operation as necessary to prevent injury to personnel or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee.

C. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall repair the affected emission/process units and/or re-establish applicable control practices.

D. The Permittee shall fulfill the applicable recordkeeping and reporting requirements of Conditions 7.4.9(e) and 5.10.5-2, respectively. For these purposes, time shall be measured from the start of a particular incident. The absence of excess emissions for a short period shall not be considered to end the incident if excess emissions resume.

E. Following notification to the Illinois EPA (see Condition 5.10.5-2(a)(ii))of a malfunction or breakdown with excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident.

F. This authorization does not relieve the Permittee from the continuing obligation to minimize excess emissions during malfunction or breakdown. As provided by 35 IAC 201.265, an authorization in a permit for continued operation with excess emissions during malfunction and breakdown does not shield the

Permittee from enforcement for any such violation and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

ii. Startup, pursuant to 35 IAC 201.149 and Part 201, Subpart I

A. Subject to the following terms and conditions, for the affected blast furnace, the Permittee is authorized to violate the applicable standards of 35 IAC 212.445(b)(1), 212.445(b)(2) and 35 IAC 214.301 during startup.

Note: This authorization is provided because the Permittee applied for such authorization in its CAAPP application, generally describing the efforts that will be used "…to minimize startup emissions, duration of individual starts, and frequency of startups".

B. This authorization does not relieve the Permittee from the continuing obligation to demonstrate that all reasonable efforts are made to minimize startup emissions, duration of individual startups and frequency of startups.

C. The Permittee shall follow the written startup, shutdown, and malfunction plan for the affected blast furnace processes prepared pursuant to 40 CFR 63.6(e)(3) and Condition 7.4.5-2. In addition, the Permittee shall also review the operating condition of the affected blast furnace process prior to initiating startup.

D. The Permittee shall fulfill applicable recordkeeping requirements of Condition 7.4.9(d).

E. The Permittee shall fulfill applicable reporting requirements of Condition 5.10.5-1.

F. As provided by 35 IAC 201.265, an authorization in a permit for excess emissions during startup does not shield a Permittee from enforcement for any violation of applicable emission standard(s) that occurs during startup and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

7.4.5-3 Work Practices from State Permits

a. Except during periods of runner maintenance, the hot metal runners and the short slag runner shall be covered with permanent type runner covers [72080034, 72080036, T1].

b. Water spraying of the slag for the purpose of cooling and minimizing slag load-out emissions will take place after completion of the slagging operation and prior to slag-loadout [85030039, T1].

c. BFG flare #1 shall be operated with no visible emissions as determined by USEPA Method 22, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours [0607023, T1].

d. Requirements for BFG Flare #2 from Permit 06070023:

i. BFG flare #2 shall be operated to comply with the following equipment work practices [T1]:

A. BFG flare #2 shall be operated with no visible emissions as determined by the methods specified in 40 CFR 60.18(f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

B. BFG flare #2 shall be operated with a flame present at all times.

ii. Emissions of PM and PM_{10} from BFG flare #2 shall be controlled by the existing BFG pretreatment system, which entails treatment by dust catchers and wet scrubbers [T1].

iii. BFG and natural gas shall be the only fuels combusted in BFG flare #2 [T1].

7.4.5-4 Other Work Practices

The following requirements are established pursuant to Section 39.5(7)(a) of the Act:

a. The Permittee shall maintain the double-bell system of the blast furnaces in order to minimize emissions from furnace charging.

b. The Permittee shall develop and implement operating practices plan for slag handling processing associated with the slag pits for minimizing emissions and keeping them below the levels established in Condition 7.4.6(e).

7.4.6 Production and Emission Limitations from Existing Permits

a. i. Total combined production of hot metal (a.k.a., iron) from blast furnaces A and B shall not exceed 9,849 net tons per day, averaged over any calendar month [72080034,7208036,95010001, T1]; and

ii. Maximum amount of pellets charged shall not exceed 4,308,581 tons/yr [95010001, T1].

b. Casthouse Baghouse emissions shall not exceed the following limits [95010001, T1]:

Pollutant	Emission Factors (Lbs/Ton Iron)	Maximum Emissions (Tons/Yr)
PM	0.0703	111.19
PM_{10}	0.0703	111.19
SO_2	0.2006	422.00
NO_x	0.0144	22.79
VOM	0.0946	149.68

c. Blast Furnace uncaptured fugitives emissions shall not exceed the following limits [95010001, T1]:

Pollutant	Emission Factors (Lbs/Ton Iron)	Maximum Emissions (Tons/Yr)
PM	0.031	49.06
PM_{10}	0.0155	24.53
SO_2	0.0104	21.94
NO_x	0.0007	1.14
VOM	0.0047	7.42

d. Blast Furnace Charging emissions shall not exceed the following limits [95010001, T1]:

Pollutant	Emission Factors (Lbs/Ton Pellets)	Maximum Emissions (Tons/Yr)
PM	0.0024	5.17
PM_{10}	0.0024	5.17

e. Slag Pits emissions shall not exceed the following limits [95010001, T1]:

Pollutant	Emission Factors (Lbs/Ton Iron)	Maximum Emissions (Tons/Yr)
PM	0.00417	6.60
PM_{10}	0.00417	6.60
SO_2	0.0100	15.83

f. Iron Spout Baghouse emissions shall not exceed the following limits [95010001, T1]:

Pollutant	Emission Factors (Lbs/Ton Iron)	Maximum Emissions (Tons/Yr)
PM	0.02548	40.32
PM_{10}	0.02548	40.32
SO_2	0.0073	13.89

g. Total emissions from blast furnace operations shall not exceed the following limits, tons/yr [95010001, T1]:

	PM*	PM_{10}*	SO_2	NO_x	VOM
Blast Furnace Operations	212	188	474	24	157

* Limit does not address the iron pellet screen (See Section 7.1)

h. Compliance with the daily limit of Condition 7.4.6(a)(i) shall be determined from a monthly total of the relevant daily data divided by the number of days in the month [95010001].

i. Compliance with the annual limits of Condition 7.4.6(a)(2) and Conditions 7.4.6(b) through (g) shall be determined based on a calendar year [95010001].

j. Overlapping casting of "A" and "B" Blast Furnaces shall not exceed a casting rate of 6 tons per minute per furnace [72080034 and 7208036, T1].

k. The PM content of the BFG burned at the facility shall not exceed 0.01 grains/dscf [06070023, T1].

7.4.7 Testing Requirements

a. Blast furnace casthouse pursuant to NESHAP.

The Permittee shall comply with the following testing requirements pursuant to 40 CFR Part 63 Subpart FFFFF:

i. Pursuant to 40 CFR 63.7821(c), for each emissions unit equipped with a baghouse, the Permittee must conduct performance tests no less frequently than once every five years.

ii. Test methods for compliance demonstration with the emission limits for particulate matter [40 CFR 63.7822(b)]:

A. Determine the concentration of particulate matter according to the following test methods in Appendix A to 40 CFR Part 60.

1. Method 1 to select sampling port locations and the number of traverse points. Sampling sites must be located at the outlet of the control device and prior to any releases to the atmosphere.

2. Method 2, 2F, or 2G to determine the volumetric flow rate of the stack gas.

3. Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.

4. Method 4 to determine the moisture content of the stack gas.

5. Method 5, 5D, or 17, as applicable, to determine the concentration of particulate matter (front half filterable catch only).

B. Collect a minimum sample volume of 60 dry standard cubic feet (dscf) of gas during each particulate matter test run. Three valid test runs are needed to comprise a performance test.

iii. Test methods for compliance demonstration with the opacity limits [40 CFR 63.7823(b) and (c)]:

A. The Permittee shall conduct each visible emissions performance test such that the opacity observations overlap with the performance test for particulate matter [40 CFR 63.7823(b)].

B. To determine compliance with the applicable opacity limit for a blast furnace casthouse, the Permittee shall:

1. Use a certified observer to determine the opacity of emissions according to Method 9 in Appendix A to 40 CFR Part 60.

2. Obtain a minimum of 30 6-minute block averages. For a blast furnace casthouse, the Permittee shall make observations during tapping of the furnace. Tapping begins when the furnace is opened, usually by creating a hole near the

bottom of the furnace, and ends when the hole is plugged.

b. Blast furnace casthouse.

The Permittee shall comply with the following testing requirements pursuant to Sections 39.5(7)(d) and (p) of the Act:

i. For uncaptured emissions (roof monitor) or secondary emissions:

A. The Permittee shall have the opacity (6-minute average), of the exhaust of the building housing the blast furnace casthouse determined by a qualified observer in accordance with USEPA Method 9 while the affected blast furnace(s) are being tapped, as further specified below.

B. The duration of opacity observations for each test shall be at least 30 minutes unless no visible emissions are observed as determined by USEPA Method 22 or the average opacities for the first 12 minutes of observations conducted for the point of release that displays the greatest opacity, 6-minute average, are both no more than 10.0 percent.

C. 1. Observations of opacity shall be conducted on the following frequency unless absence of adequate daylight or weather conditions preclude scheduled observation, in which case, the next observations shall be conducted on the next day during which observations of opacity can properly be conducted in accordance with USEPA Method 9:

I. On a weekly basis (at least once every 7 operating days of the casthouse) except as provided below.

II. On a daily basis (at least 5 days out of 7 operating days of the casthouse) if the maximum opacity observed during any of the five previous observations was 18 percent or more, 6-minute average, continuing on a daily basis until the maximum opacities measured in five consecutive daily observations are all less than 18 percent, 6-minute average, at which time

observations on a weekly basis shall resume.

2. Upon written request by the Illinois EPA, additional opacity observations shall be conducted within five operating days for the casthouse from the date of the request by the Illinois EPA or on the date agreed upon by the Illinois EPA, whichever is later. For such observations conducted pursuant to a request from the Illinois EPA:

I. The Permittee shall notify the Illinois EPA at least 24 hours in advance of the date and time of these observations, in order to enable the Illinois EPA to witness the observations. This notification shall include the name and employer of the qualified observer(s).

II. The Permittee shall promptly notify the Illinois EPA of any changes in the time or date for observations.

III. The duration of these observations shall cover a complete heat or cycle of the affected blast furnace.

IV. The Permittee shall provide a copy of the current certification for the opacity observer and observer's readings to the Illinois EPA at the time of the observations, if the Illinois EPA personnel are present.

D. The Permittee shall keep records for all opacity measurements for the casthouse made in accordance with USEPA Method 9 that the Permittee conducts or that are conducted at its behest by individuals who are qualified to make such observations. For each occasion on which such measurements are made, these records shall include the formal report for the measurements if conducted pursuant to Condition 7.4.7(b)(i)(2), or otherwise the identity of the observer, a description of the measurements that were made, the operating condition of the casthouse, the observed opacity, and copies of the raw data sheets for the measurements.

ii. Emissions from control equipment [35 IAC 212.445(b)]:

A. Upon request from the Illinois EPA, compliance with emission limits of 35 IAC 212.445(b)(1)(see also Condition 7.4.3(b)(ii)(A)) shall be determined in accordance with the procedures set out in 40 CFR Part 60, Appendix A, Methods 1 through 5, incorporated by reference in 35 IAC 212.113, and shall be based on the arithmetic average of three runs. Calculations shall be based on the duration of a cast defined in 35 IAC 212.445(a)(1).

B. Upon request from the Illinois EPA, opacity readings, for verifying compliance with emission limit of 35 IAC 212.445(b)(2)(see also Condition 7.4.3(b)(ii)(B)), shall be taken in accordance with the observation procedures set out in 40 CFR part 60, Appendix A, Method 9, incorporated by reference in 35 IAC 212.113.

c. Additional Emission Testing for the Casthouse Baghouse and the Iron Spout Baghouse, pursuant to Sections 39.5(7)(d) and (p) of the Act:

i. As part of the emission testing required by Condition 7.4.7(a), the Permittee shall also measure the SO_2, NO_x and VOM emissions from each baghouse.

ii. The following USEPA Test Methods shall be used for testing of emissions, unless another USEPA Test Method is approved by the Illinois EPA.

Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3
Moisture	Method 4
SO_2	Method 6
NO_x	Method 7
VOM	Method 25

iii. For this emission testing, test notification and reporting shall be done by the Permittee in accordance with Conditions 8.6.2 and 8.6.3 of this permit.

d. BFG Flares:

Pursuant to Sections 39.5(7)(d) and (p) of the Act, the Permittee shall conduct observations for each BFG flare for the presence of visible emissions and/or opacity, using USEPA Method 22 and 9, respectively. These observations shall be conducted on at least a monthly basis for each

flare. In addition, observations shall be coordinated with weather conditions so that at least two observations are made in each calendar year during elevated wind speed conditions, i.e., wind speed of at least 16 miles per hour. These observations shall be conducted by individual(s) certified to observe opacity by USEPA Method 9. The observer(s) shall initially conduct observations for visible emissions. If any visible emissions are observed, the observations shall continue for two hours or until the cumulative duration of visible emissions exceeds ten minutes, whichever occurs first. If any visible emissions are observed, observations for opacity shall also be conducted.

7.4.8 Monitoring Requirements

a. Monitoring requirements pursuant to 40 CFR 63.7830(a)

For each capture system subject to an operating limit in 40 CFR 63.7790(b)(1) established in the Permittee's capture system operation and maintenance plan, the Permittee must install, operate, and maintain a CPMS according to the following requirements:

Dampers that are manually set and remain in the same position are exempt from the requirement to install and operate a CPMS. If dampers are not manually set and remain in the same position, the Permittee shall make a visual check at least once every 24 hours to verify that each damper for the capture system is in the same position as during the initial performance test.

b. Monitoring requirements pursuant to 40 CFR 7830(b)(1)

The casthouse baghouse and iron spout baghouse shall each be equipped with a bag leak detection system which the Permittee shall operate and maintain according to the following requirements of 40 CFR 63.7831(f):

i. The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less [40 CFR 63.7831(f)(1)].

ii. The system must provide output of relative changes in particulate matter loadings [40 CFR 63.7831(f)(2)].

iii. The system must be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over a preset level. The alarm must be located such that it can be heard by the appropriate plant personnel [40 CFR 63.7831(f)(3)].

iv. Each system that works based on the triboelectric effect must be installed, operated, and maintained in a manner consistent with the guidance document, "Fabric Filter Bag Leak Detection Guidance," EPA-454/R-98-015, September 1997 [40 CFR 63.7831(f)(4)].

v. Following the initial adjustment, do not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in your operation and maintenance plan. Do not increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365-day period unless a responsible official certifies, in writing, that the baghouse has been inspected and found to be in good operating condition [40 CFR 63.7831(f)(6)].

c. The Permittee shall conduct inspections of each baghouse at the specified frequencies according to the following requirements [40 CFR 63.7830(b)(4)]:

i. Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the operation and maintenance plan manual.

ii. Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.

iii. Check the compressed air supply for pulse-jet baghouses each day.

iv. Monitor cleaning cycles to ensure proper operation using an appropriate methodology.

v. Check bag cleaning mechanisms for proper functioning through monthly visual inspection or equivalent means.

vi. Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (kneed or bent) or laying on their sides. You do not have to make this check for shaker-type baghouses using self-tensioning (spring-loaded) devices.

vii. Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.

viii. Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means.

d. Site-specific monitoring plan requirements pursuant to 40 CFR 63.7831(a)

For each CPMS required in 40 CFR 63.7830, the Permittee shall develop and make available for inspection upon request by the Illinois EPA a site-specific monitoring plan that addresses the following requirements of 40 CFR 63.7831(a)(1) through (a)(6), including:

i. Installation of the CPMS sampling probe or other interface at a measurement location relative to each affected process unit such that the measurement is representative of control of the exhaust emissions (*e.g.*, on or downstream of the last control device) [40 CFR 63.7831(a)(1)];

ii. Performance and equipment specifications for the sample interface, the parametric signal analyzer, and the data collection and reduction system [40 CFR 63.7831(a)(2);

iii. Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations) [40 CFR 63.7831(a)(3);

iv. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1), (c)(3), (c)(4)(ii), (c)(7), and (c)(8) [40 CFR 63.7831(a)(4);

v. Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d) [40 CFR 63.7831(a)(5); and

vi. Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i) [40 CFR 63.7831(a)(6).

e. Pursuant to 40 CFR 63.7831(b), unless otherwise specified by the NESHAP, each CPMS must:

i. Complete a minimum of one cycle of operation for each successive 15-minute period and collect a minimum of three of the required four data points to constitute a valid hour of data;

ii. Provide valid hourly data for at least 95 percent of every averaging period; and

iii. Determine and record the hourly average of all recorded readings.

f. Pursuant to 40 CFR 63.7831(c), the Permittee shall conduct a performance evaluation of each CPMS in accordance with the site-specific monitoring plan.

g. Pursuant to 40 CFR 63.7831(d), the Permittee shall operate and maintain the CPMS in continuous operation according to the site-specific monitoring plan.

h. Pursuant to 40 CFR 63.7790(b)(1) and 63.7800(b)(3)(i), the Permittee shall operate each capture system applied to emissions from a blast furnace casthouse at or above the lowest value or settings as established in the Permittee's operation and maintenance plan and which are currently as follows:

i. Casthouse Baghouse:

A. Motor amperage (total), both blast furnaces casting: 245 amps

B. Motor amperage, one blast furnace casting: 125 amps

ii. Iron Spout Baghouse:

A. Motor amperage, both blast furnaces casting (total): 245 amps

B. Motor amperage, one blast furnace casting: 131 amps

C. Blast Furnace A iron spout damper positions (3): 2 or less open all of the time; 3 open less than 5 minutes

D. Blast Furnace B tilting runner damper position: open

i. Pursuant to 40 CFR 63.7824(c), the Permittee may change the operating limits for the capture system if the Permittee meets the following requirements:

i. Submits a written notification to the Illinois EPA of the Permittee's request to conduct a new performance test to revise the operating limit.

ii. Conducts a performance test to demonstrate compliance with the applicable emission in Table 1 to 40 CFR 63 Subpart FFFFF.

iii. Establishes revised operating limits according to the applicable procedures in 40 CFR 63.7824(a).

j. Monitoring and Collecting Data pursuant to 40 CFR 63.7832:

i. Except for monitoring malfunctions, out-of-control periods as specified in 40 CFR 63.8(c)(7), associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), the Permittee shall monitor continuously (or collect data at all required intervals) at all times an affected source is operating.

ii. The Permittee may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels or to fulfill a minimum data availability requirement, if applicable. The Permittee shall use all the data collected during all other periods in assessing compliance.

iii. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

k. Pursuant to the operation and maintenance requirements of the O/M plan required by 40 CFR 63.7800(b), the Permittee shall comply with following inspection procedures for the capture systems:

Monthly inspections of the equipment that is important to the performance of the total capture system. This inspection must include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). Repair of any defect or deficiency in the capture system shall be done before the next scheduled inspection.

l. Inspection and Monitoring for BFG Flares [Section 39.5(7)(d) of the Act]

i. For BFG flare #1, the Permittee shall either:

A. Install, operate and maintain instrumentation, with alarm, to confirm the presence of a flame at the flare tip; or

B. Monitor the presence of a pilot flame in accordance with Condition 7.4.8(l)(ii); or

C. Verify daily, the following to ensure BFG flare #1 is operating: The presence of a flame or thermal plume at the tip of the flare and that the flare gas header has a positive pressure.

ii. For BFG flare #2, the Permittee shall monitor the presence of a flare pilot flame using a thermocouple or other equivalent device to detect the presence of a flame.

iii. The Permittee shall perform detailed inspections of each BFG flare every 18 months. These inspections shall include all maintenance and repair activities performed based on the inspection results. If the flare cannot be inspected within 18 months, as required, the Permittee may request in writing from IEPA's Permit Section an extension of time to complete this inspection. The request for an extension must be supported with adequate justification for the extension and an assurance that the flare is continuing to operate without any problems. Under no circumstances shall the extension go beyond an additional 6 months.

m. Pursuant to Permits 72080034 and 72080036 [T1]:

i. The Permittee shall maintain and operate a pressure drop continuous recording system on the casthouse baghouse. The recorded data shall be retained for a period of six months shall be made available to the Illinois EPA personnel upon request.

ii. The Permittee shall maintain and operate a continuous pressure drop recording system on the iron spout baghouse.

n. The Permittee shall conduct observations for opacity for operations associated with the blast furnace in accordance with USEPA Method 9 for a minimum of 30 minutes for each operation unless no visible emissions are observed during the first 12 minutes of observations:

i. Blast furnace charging: Annually

ii. Blast furnace stoves stacks: Semiannually

iii. Slag pits: Quarterly

7.4.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected Blast Furnaces Processes, pursuant to Sections 39.5(7)(a), (e) and (p) of the Act:

a. 40 CFR Part 63 Subpart FFFFF (40 CFR 63.7842 and 63.7843):

i. The Permittee shall keep the following records, as specified in 40 CFR 63.7842 (a)(1) through (a)(3):

A. A copy of each notification and report that the Permittee submitted to comply with 40 CFR 63 Subpart FFFFF, including all documentation supporting any initial notification or notification of compliance status that the Permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).

B. The records in 40 CFR 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

C. Records of performance tests, performance evaluations, and opacity observations as required in 40 CFR 63.10(b)(2)(viii).

ii. The Permittee shall keep the records in 40 CFR 63.6(h)(6) for visual observations.

iii. The Permittee shall keep the records required in 40 CFR 63.7833 and 63.7834 (including a current copy of the operation and maintenance plan) to show continuous compliance with each emission limitation and operation and maintenance requirement that applies to the Permittee.

iv. The Permittee shall keep its records in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1).

v. As specified in 40 CFR 63.10(b)(1), the Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

vi. The Permittee shall keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report,

or record, according to 40 CFR 63.10(b)(1). The Permittee may keep the records offsite for the remaining 3 years.

b. 40 CFR Part 63 Subpart FFFFF [40 CFR 63.7834(b)]:

The Permittee shall maintain a current copy of the operation and maintenance plan required in 40 CFR 63.7800(b) onsite and available for inspection upon request.

c. The following records of Permits #72080034, #72080036 and #95010001:

i. The Permittee shall maintain records for each beaching event in which iron is beached that, as a minimum, shall include:

A. An explanation why beaching occurred.

B. The date, time and duration of beaching.

C. The measures used to reduce the amount of beaching.

D. The maximum rate of beaching, tons/minute, (or information showing that the beaching rate did not exceed 20 tons/minute).

d. Records for Startups of Affected Blast Furnace Processes, pursuant to Section 39.5(7)(b) of the Act

i. The Permittee shall maintain startup procedures for each affected blast furnace process, as required by Condition 7.4.5-2(b)(ii)(C).

ii. The Permittee shall maintain the following records for each startup of an affected blast furnace process:

A. Date, time and duration of the startup.

B. A description of the startup and reason(s) for the startup.

C. Whether a violation of an applicable standard may have occurred during startup accompanied by the information in Condition 7.4.9(d)(iv) if a violation may have or did occur.

D. Whether the established startup procedures, maintained above, were followed accompanied by the information in Condition 7.4.9(d)(iii) if there were departure(s) from those procedures.

iii. If the established startup procedures were not followed during a startup, the Permittee shall maintain the following records:

A. A description of the departure(s) from the established procedures.

B. The reason(s) for the departure(s) from the established procedures.

C. An explanation of the consequences of the departure(s) for emissions, such as whether the departure(s) prolonged the startup or resulted in additional emissions, and if so,

1. The actions taken to minimize emissions and the duration of the startup; and

2. An explanation whether similar incidents might be prevented in the future and if so, the corrective actions taken or to be taken to prevent similar incidents.

iv. If a violation did or may have occurred during a startup, the Permittee shall maintain the following records:

A. Identification of the applicable standard(s) that were or may have been violated.

B. An explanation of the nature of such violation(s), including the magnitude of such excess emissions.

C. A description of the actions taken to minimize the magnitude of emissions and duration of the startup.

D. An explanation whether similar incidents could be prevented or ameliorated in the future and if so, a description of the actions taken or to be taken to prevent similar incidents in the future.

e. Records for Malfunctions or Breakdowns

Pursuant to 35 IAC 201.263, the Permittee shall maintain records of continued operation of the affected Blast Furnace Processes as addressed by Condition 7.4.5-2(b)(i), during malfunctions or breakdowns, which at a minimum, shall include the following records. The preparation of these records shall be completed within 45 days of an incident, unless the Permittee conducts a root cause analysis for the incident, in which case the preparation of

these records, other than the root cause analysis, shall be completed within 120 days of the incident.

i. Date, time and duration of the incident.

ii. A detailed description of the incident, including:

A. A chronology of significant events during and leading up to the incident.

B. Relevant operating data for the unit, including information such as operator log entries and directives provided by management during the incident.

C. The measures taken to reduce the quantity of emissions and the duration of the incident including the resources utilized to address the incident.

D. The magnitude of emissions during the incident.

iii. An explanation why continued operation of an affected blast furnace was necessary to prevent personnel injury or prevent equipment damage.

iv. A discussion of the cause(s) or probable cause(s) of the incident including the following:

A. Whether the incident was sudden, unavoidable, or preventable, including:

1. Why the equipment design did not prevent the incident;

2. Why better maintenance could not have avoided the incident;

3. Why better operating practices could not have avoided the incident; and

4. Why there was no advance indication for the incident.

B. Whether the incident stemmed from any activity or event that could have been foreseen, avoided or planned for.

C. Whether the incident was or is part of a recurring pattern indicative of inadequate design, operation or maintenance.

v. A description of any steps taken to prevent similar future incidents or reduce their frequency and severity.

vi. As an alternative to keeping the records required by Condition 7.4.9(e)(iv), the Permittee may perform a root cause analysis. For this purpose, a root cause analysis is an analysis whose purpose is to determine, correct and eliminate the primary causes of the incident and the excess emissions resulting there from. If the Permittee performs a root cause analysis method that would define the problem, define all causal relationships, provide a causal path to the root cause, delineate the evidence, and provide solutions to prevent a recurrence. Such an analysis shall be completed within one year of the incident.

f. Recordkeeping for Backdrafting.

The Permittee shall maintain records for each period when an affected blast furnace is backdrafted. These records shall include, at a minimum for each occurrence, the blast furnace identification, date and timeframe of backdraft, reason for backdrafting (e.g., planned shutdowns and/or routine maintenance), and steps taken to minimize emissions during the backdraft period.

g. Records for BFG Flares

The Permittee shall maintain the following records for BFG flares:

i. Records of opacity observations performed as required by Condition 7.4.7(d).

ii. Records of inspections and maintenance activities conducted pursuant to Condition 7.4.8(l).

iii. For BFG flare #2, date and duration of any time when the pilot flame monitoring equipment of the affected unit was not in operation, with explanation.

iv. Date and duration of any time when there was no pilot flame present at the flare, with explanation.

v. Date, duration and description of any other deviations.

h. The Permittee shall maintain the following operating records for the affected blast furnaces:

i. Monthly and annual usage of natural gas, blast furnace gas and coke oven gas (million ft^3) used by the affected blast furnace stoves.

ii. Blast Furnace hot metal production (total combined daily, monthly and annual in tons), including documentation on iron and slag losses.

iii. Records of iron pellets charged (tons/month and tons/year).

iv. Records of slag processed (tons/month and tons/year).

v. For overlapping tapping of both furnaces, records to demonstrate that the tapping rate of each furnace does not exceed 6 tons per minute.

vi. If the Permittee operates under manufacturer's specifications or manufacturer's instructions, the Permittee shall maintain such manufacturer's documentation, which shall be kept at the facility as part of the required records.

vii. Records identifying process upsets in the operations at the casthouse that result in the generation of additional opacity or PM emissions, such as refractory clay falling into the trough during a missed stop. For these upsets, these records shall include the time of the upset, a description of the upset and a discussion of the consequences for opacity and PM emissions from the casthouse.

i. The Permittee shall keep the following records related to the emissions of the affected blast furnace processes to verify compliance with the applicable limits in Condition 7.4.6(b) through (g):

i. A file containing the emission factors used by the Permittee to determine emissions of different pollutants from the various processes, with supporting documentation. These records shall be reviewed and updated by the Permittee as necessary to assure that the emission factors that it uses to determine emissions of the processes do not understate actual emissions, including review when emission testing is conducted for such processes. These records shall be prepared and copies sent to the Illinois EPA in accordance with Condition 5.9.6(c).

ii. Records for any periods of operation of such processes that are not otherwise addressed in the required records during which the established emission factor in Condition 7.4.9(i)(i) would understate actual emissions of the process, with description of the period of operation and an estimate of the additional emissions during such period that would not be accounted for by the established factor, with supporting explanation and calculations.

iii. Records for the annual emissions of such processes for comparison to the limits in Conditions 7.4.6(b) through (f), with supporting calculations.

iv. Records for combined annual emissions of the affected processes, based on the summation of the above data, for comparison to the limits in Condition 7.4.6(g).

7.4.10 Reporting Requirements

a. 40 CFR 63 Subpart FFFFF (40 CFR 63.7841):

i. Compliance report due dates. The Permittee shall submit the semiannual compliance reports to the Illinois EPA according to the following requirements:

A. Semi-annual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

B. Each compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.

ii. Compliance report contents. Each compliance report must include the following information:

A. Company name and address.

B. Statement by a responsible official, with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

C. Date of report and beginning and ending dates of the reporting period.

D. If the Permittee had a startup, shutdown, or malfunction during the reporting period and the Permittee took actions consistent with the source's startup, shutdown, and malfunction plan, the compliance report must include the information in 40 CFR 63.10(d)(5)(i).

E. If there were no deviations from the continuous compliance requirements in 40 CFR 63.7833 and 63.7834 that apply to the Permittee, a statement that there were no deviations from the emission limitations or operation and

maintenance requirements during the reporting period.

F. If there were no periods during which a continuous monitoring system (including a CPMS, COMS, or continuous emission monitoring system (CEMS)) was out-of-control as specified in 40 CFR 63.8(c)(7), a statement that there were no periods during which the CPMS was out-of-control during the reporting period.

G. For each deviation from an emission limitation in 40 CFR 63.7790 that occurs at an affected source where the Permittee is not using a continuous monitoring system (including a CPMS, COMS, or CEMS) to comply with an emission limitation in Subpart FFFFF, the compliance report must contain the information described in Condition 7.4.10(a)(ii) and the following information (this includes periods of startup, shutdown, and malfunction):

1. The total operating time of each affected source during the reporting period.

2. Information on the number, duration, and cause of deviations (including unknown cause, if applicable) as applicable and the corrective action taken.

H. For each deviation from an emission limitation occurring at an affected source where the Permittee is using a continuous monitoring system (including a CPMS or COMS) to comply with the emission limitation in Subpart FFFFF, the Permittee must include the information described in Condition 7.4.10(a)(ii) and the following information (this includes periods of startup, shutdown, and malfunction):

1. The date and time that each malfunction started and stopped.

2. The date and time that each continuous monitoring was inoperative, except for zero (low-level) and high-level checks.

3. The date, time, and duration that each continuous monitoring system was out-of-control as specified in 40 CFR 63.8(c)(7), including the information in 40 CFR 63.8(c)(8).

4. The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

5. A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

6. A breakdown of the total duration of the deviations during the reporting period including those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

7. A summary of the total duration of continuous monitoring system downtime during the reporting period and the total duration of continuous monitoring system downtime as a percent of the total source operating time during the reporting period.

8. A brief description of the Blast Furnace processes.

9. A brief description of the continuous monitoring system.

10. The date of the latest continuous monitoring system certification or audit.

11. A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.

iii. Immediate startup, shutdown, and malfunction report. If the Permittee had a startup, shutdown, or malfunction during the semiannual reporting period that was not consistent with the source's startup, shutdown, and malfunction plan, the Permittee shall submit an immediate startup, shutdown, and malfunction report according to the requirements in 40 CFR 63.10(d)(5)(ii).

b. Reporting requirements for malfunctions and breakdowns (Permits #72080034, #72080036 and #95010001):

The Permittee shall notify the Illinois EPA's regional office by telephone as soon as possible during normal working hours, but no later than the next Agency business day, upon the occurrence of excess emissions due to malfunctions or breakdowns. The Permittee shall submit a quarterly report to the Illinois EPA's regional office in Collinsville providing an explanation of the occurrence of such events.

c. i. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the Illinois EPA, Air Compliance Section, within 30 days of deviations by the affected blast furnace processes from applicable requirements unless a NESHAP standard specifies a different timeframe, as follows:

A. Requirements in Condition 7.4.3(b) through (f).

B. Requirements in Condition 7.4.5-1.

C. Requirements in Condition 7.4.5-3.

D. Requirements in Condition 7.4.5-4.

E. Requirements in Condition 7.4.6(a) through (j).

ii. All such deviations shall be summarized and reported as part of the semiannual monitoring report required by Condition 8.6.1.

iii. The Permittee shall notify the Illinois EPA, Air Compliance Section, of all other deviations as part of the semiannual monitoring reports required by Condition 8.6.1.

iv. All required deviation reports described in Condition 7.4.10(c) above shall contain the following information:

A. Date, time and duration of the deviation;

B. Description of deviation;

C. Probable cause of the deviation;

D. Any corrective action or preventative measures taken;

d. Reporting on the State startup authorization shall be performed in accordance with Condition 5.10.5-1.

e. Reporting on the Federal SSM authorization shall be performed in accordance with Condition 5.10.5-3.

7.4.11 Operational Flexibility

Backdrafting the blast furnaces in order to conduct planned/routine maintenance (not associated with malfunction and breakdowns) shall follow procedures designed to minimize the release of emissions during such activities.

7.4.12 Compliance Procedures

a. For affected blast furnace processes, compliance with the applicable standards of Condition 7.4.3 is addressed by the work practices, testing, monitoring, recordkeeping and reporting requirements in Section 7.4 of this permit.

b. Compliance with the production/emission limits of Conditions 7.4.6 and 5.6.2 is addressed by the work practices, testing, monitoring, recordkeeping, and reporting requirements in Sections 7.4 and 5 of this permit.

7.4.13 Compliance Schedule and Current Enforcement Status

a. The Permittee shall comply with the following schedule of compliance related to SO_2 emissions from combustion of Blast Furnace Gas in various emission units at the source, as established in accordance with Consent Order No. 05-CH-750 (December 18, 2007 as amended on December 23, 2009):

Commitment	Timing
Use the correct emission factor for the Blast Furnace Gas SO_2 emissions when calculating, recording and reporting SO_2 emissions and for any other purpose under the Act.	Immediately and at all times going forward.
Work with the Illinois EPA, including providing additional information to the Agency when requested.	Within 30 days of the request.
Obtain a revised PSD Construction Permit.	Subject to Agency final issuance.

b. Submittal of Progress Reports

Quarterly Progress Reports shall be submitted beginning with the fourth quarter of 2009 and ending upon the achievement of compliance. Each quarterly report shall be submitted no later than 30 days after the end of the

corresponding calendar quarter. The Progress Report shall contain at least the following:

i. The required date for achieving commitments, and actual dates when such commitments were achieved.

ii. Any commitments accepted by the Permittee or otherwise established for the affected BOF as part of the resolution of the above referenced Consent Order, with the associated timing for each commitment.

iii. A discussion of progress in complying with commitments that is subject to future deadlines.

iv. If any commitment was not met, an explanation of why the required timeframe or commitment was not met, and any preventive or corrective measures adopted to achieve required commitment.

c. After completion of all required commitments and certification of compliance, as identified in Condition 7.4.13(a) no further Quarterly Progress Reports are required to be submitted.

Note: US Steel informed the Illinois EPA during deliberations on Consent Order 05-CH-750 of possible violations involving SO2 emissions from use of Blast Furnace Gas. The violations involved exceedances of the SO2 limit in Construction Permit 95010001 issued on July 23, 1996. The violations were addressed, working with the Office of the Illinois Attorney General, in Consent Order 05-CH-750, which was entered on December 18, 2007 in the Circuit Court for the Third Judicial Circuit, Madison County, Illinois. This Consent Order required US Steel to submit a complete and accurate application including required SO2 modeling to modify Construction Permit 95010001 by January 31, 2008. That application has been submitted by US Steel.

7.4.14 State-Only Conditions

State-only conditions are not being established.

7.5 Basic Oxygen Processes

7.5.1 Description

Reladling and Desulfurization Stations:

Molten iron from the blast furnaces is transported to the BOF by torpedo cars. The iron is then transferred to the charging ladles at the reladling station. In the desulfurization stations a combination of lime and magnesium is injected into the molten iron to remove the sulfur. The sulfur reacts with the lime and magnesium and forms a layer of slag on the surface of the iron. A collection system with a positive pressure baghouse is used to control emissions of particulate matter from these stations.

Slag Skimming:

After the molten iron is desulfurized, the ladle it is moved to this station where a mechanical arm is used to scrape slag from the surface of the iron. This slag is scraped from the iron ladles and into slag pots. A collection system with a baghouse is used to control emissions from this process.

Basic Oxygen Furnaces (BOF):

A fresh BOF charge usually begins with scrap metal. The scrap is charged into the BOF vessel. Molten iron is then charged into the vessel. A secondary hood is utilized to capture emissions during the charge. During periods of reduced molten iron availability scrap may be preheated with a natural gas fired lance to increase the temperature and reduce the amount of molten iron needed for a heat of steel. The BOF is then closed off and an oxygen lance is inserted to begin the melting and refining process. The oxygen lance openings on each BOF is equipped with steam rings. The steam rings are control measures for emissions of particulate matter from the BOF during the "oxygen blow" or refining phase when oxygen is being fed into the furnaces. The steam rings would inject steam in the area between the oxygen lance and the "lance hole" in the lid of the furnaces, acting to suppress the emissions of particulate through this area during the refining phase. In the BOF, the injected oxygen reacts exothermically with the carbon in the iron generating heat which melts the scrap and reducing the amount of carbon in the bath thus converting the iron to steel. When the refining process is completed, the molten steel is poured into a steel transfer ladle. Materials such as aluminum, silica, and manganese are added, as required, depending upon the particular steel alloy being produced. After the molten steel is tapped, the remaining slag is then dumped into a slag ladle. Emissions from these operations are captured and controlled with an electrostatic precipitator (ESP).

Ladle Preheating and Drying:

In this unit, lances combust either natural gas or coke oven gas to produce the heat needed to dry and preheat iron and steel handling ladles. The refractory linings of freshly re-bricked or repaired ladles must be completely dried and preheated before use. The drying process is necessary because any moisture left in the refractory would immediately vaporize and expand when the ladles are filled with molten iron or steel. This sudden expansion could cause the refractory lining to split which would allow the molten iron and steel to come into contact with, and damage the shell of the ladle. Emissions from this unit consist of particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide and organic materials generated by fuel combustion.

Ladle Metallurgy Furnaces (LMF) and Argon Stirring Stations:

At the LMF station and the argon stirring stations, final adjustments are made to the composition of a ladle of steel and the steel is held pending casting. At the LMF station, electricity can also be used to heat a ladle of steel if it has cooled below the range at which steel can be cast.

If the steel does not need to be reheated and at most minor adjustments are needed to its composition, the ladle of steel goes to one of the two argon stirring stations. At these stations, stirring lances are inserted into the steel and argon is pumped into the steel to maintain uniform composition and temperature. A baghouse is also used to control emissions from the operations.

Note: This narrative description is for informational purposes only and is not enforceable.

7.5.2 List of Emission Units and Air Pollution Control Equipment

Location	Basic Oxygen Process Descriptions	Date Constructed	Emission Control Equipment
Basic Oxygen Process Furnace Shop (BOPF)	Hot Metal Transfer Station	Prior to 05/1983	Reladle/ Desulfurization Baghouse
	(2) Hot Metal Desulfurization Stations		
	Slag Skimming Station	1985	Skimmer Baghouse
	Basic Oxygen Furnaces (BOF) #1 and #2 with Steam Rings	Prior to 08/1972	Electrostatic Precipitator
	Ladle Drying/Preheating (coke oven gas and natural gas modes)	Prior to 08/1972	None

Location	Basic Oxygen Process Descriptions	Date Constructed	Emission Control Equipment
	Ladle Metallurgy Furnace (LMF) Station	Prior to 1986	Baghouse #2
	Argon Stirring Stations	Around 1988	

7.5.3 Applicable Provisions

a. Pursuant to 35 IAC 212.446, emissions of particulate matter from basic oxygen processes shall be controlled as follows:

i. Charging, Refining and Tapping (BOF Operations). Particulate matter emissions from all basic oxygen furnaces (BOF) shall be collected and ducted to pollution control equipment. Emissions from basic oxygen furnace operations during the entire cycle (operations from the beginning of the charging process through the end of the tapping process) shall not exceed the allowable emission rate specified by 35 IAC 212.322. For purposes of computing the process weight rate, nongaseous material charged to the furnace and process oxygen shall be included. No material shall be included more than once [35 IAC 212.446(a)].

ii. Hot Metal Transfer, Hot Metal Desulfurization and Ladle Lancing.

Particulate matter emissions from hot metal transfers to a mixer or ladle, hot metal desulfurization operations and ladle lancing shall be collected and ducted to pollution control equipment, and emissions from the pollution control equipment shall not exceed 69 mg/dscm (0.03 gr/dscf) [35 IAC 212.446(b)(1)].

iii. For openings in the building housing the BOF, no person shall cause or allow emissions to exceed an opacity of 20 percent, as determined by averaging any 12 consecutive observations taken at 15 second intervals [35 IAC 212.446(c)].

b. Pursuant to 35 IAC 212.458, no person shall cause or allow emissions of PM_{10}, other than that of fugitive particulate matter, into the atmosphere to exceed the following limits during any one hour period:

i. 32.25 ng/J (0.075 lbs/mmBtu) of heat input from the burning of coke oven gas (at ladle dryers/preheaters) [35 IAC 212.458(b)(9)].

ii. 27.24 kg/hr (60 lbs/hr) and 0.1125 kg/Mg (0.225 lbs/T) of total steel in process whichever limit is more stringent for the total of all basic oxygen furnace operations (charging, refining and tapping, as described in 35 IAC 212.446(a)) and measured at the BOF stack [35 IAC 212.458(b)(23)].

iii. 22.9 mg/scm (0.01 gr/scf) from any process emissions unit, except as otherwise provided in 35 IAC 212.458 or in 212.443 and 212.446 [35 IAC 212.458(b)(7)].

c. Pursuant to 35 IAC 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, except as allowed by 35 IAC 212.123(b) and 212.124.

d. The Basic Oxygen Processes are subject to 40 CFR Part 63, Subpart FFFFF, Integrated Iron and Steel Manufacturing Facilities. Applicable provisions of this NESHAP are addressed below and in other conditions of this section of the permit.

e. Pursuant to 40 CFR 63.7790(a) and Table 1 to 40 CFR Part 63 Subpart FFFFF, the emissions from the Basic Oxygen Processes shall not exceed the following limits applicable to operation at existing basic oxygen process furnace (BOPF) identified in paragraphs 9 through 12 of Table 1 to Subpart FFFFF:

i. The Permittee must not cause to be discharged to the atmosphere any gases that exit from a primary emission control system for a BOPF with an open hood system at an existing BOPF shop that contain, on a flow-weighted basis, particulate matter in excess of 0.02 gr/dscf during the steel production cycle.

ii. For each hot metal transfer, slag skimming, and hot metal desulfurization operation, the Permittee must not cause to be discharged to the atmosphere any gases that exit from a control device that contain particulate matter in excess of 0.01 gr/dscf.

iii. For each ladle metallurgy furnace operation, the Permittee must not cause to be discharged to the atmosphere any gases that exit from a control device that contain particulate matter in excess of 0.01 gr/dscf.

iv. For each roof monitor on the BOPF Shop, the Permittee must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the BOPF shop or any other building housing the BOF or basic

oxygen process that exhibit opacity greater than 20 percent (3-minute average).

f. Pursuant to 40 CFR 63.7790(b)(3), for the electrostatic precipitator applied to control emissions from a BOF, the Permittee must maintain the hourly average opacity of emissions exiting the control device at or below 10 percent.

g. The basic oxygen furnaces are subject to 35 IAC 214.301, which provides that no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to exceed 2000 ppm.

7.5.4 Non-Applicability of Regulations of Concern

a. Pursuant to 35 IAC 212.324(a)(3) and 212.316(f), the emission limitations of 35 IAC 212.324 and 212.316 are not applicable to the basic oxygen processes because these operations are subject to specific emission standards and limitations contained in 35 IAC Part 212 Subpart R, as addressed in Condition 7.5.3(a).

b. Except where noted, 35 IAC 212.321 and 35 IAC 212.322 shall not apply to the steel manufacturing processes subject to 35 IAC 212.442 through 35 IAC 212.452 [35 IAC 212.441].

c. This permit is issued based on the affected basic oxygen processes not being subject to the applicable requirements of 35 IAC 219.301 because these processes do not emit photochemically reactive organic material as defined in 35 IAC 211.4690.

d. The basic oxygen processes are not subject to 35 IAC 216.121 because they are not fuel combustion emission units as defined in 35 IAC 211.2470.

7.5.5-1 Work Practices Provisions for Operation and Maintenance Plan (40 CFR 63.7800)

a. Pursuant to 40 CFR 63.6(e)(1)(i), the Permittee must always operate and maintain the basic oxygen processes, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by 40 CFR 63 Subpart FFFFF.

b. The Permittee shall prepare and operate at all times according to a written operation and maintenance plan for each capture system or control device subject to an operating limit in 40 CFR 63.7790(b). Each plan shall address the following elements:

i. Monthly inspections of the equipment that is important to the performance of the total capture system (*e.g.*, pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (*e.g.*, presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). The operation and maintenance plan also must include requirements to repair any defect or deficiency in the capture system before the next scheduled inspection.

ii. Preventative maintenance for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

iii. Corrective action procedures for baghouses equipped with bag leak detection systems. In the event a bag leak detection system alarm is triggered, the Permittee shall initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete the corrective action as soon as practicable. Corrective actions may include, but are not limited to:

A. Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.

B. Sealing off defective bags or filter media.

C. Replacing defective bags or filter media or otherwise repairing the control device.

D. Sealing off a defective baghouse compartment.

E. Cleaning the bag leak detection system probe, or otherwise repair the bag leak detection system.

F. Shutting down the process producing the particulate emissions.

iv. Corrective action procedures for electrostatic precipitator (ESP) equipped with COMS. In the event an ESP exceeds the operating limit in 40 CFR 63.7790(b)(3), the Permittee shall take corrective

actions consistent with the site-specific monitoring plan in accordance with 40 CFR 63.7831(a).

7.5.5-2 Work Practices Provisions for Startup, Shutdown and Malfunction Plans and associated procedures

a. NESHAP Provisions

i. Pursuant to 40 CFR 63.7810, the Permittee must be in compliance with the emission limitations and operation and maintenance requirements in 40 CFR 63 Subpart FFFFF at all times, except during periods of startup, shutdown and malfunction as defined in 40 CFR 63.2

ii. Pursuant to 40 CFR 63.7810(c), the Permittee shall develop a written startup, shutdown, and malfunction plan for BOF according to the provisions of 40 CFR 63.6(e)(3).

iii. Pursuant to 40 CFR 63.7835:

A. Consistent with 40 CFR 63.6(e) and 63.7(e)(1), deviations from NESHAP requirements that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates to the Illinois EPA that the Permittee was operating in accordance with 40 CFR 63.6(e)(1).

B. The Illinois EPA will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in 40 CFR 63.6(e).

iv. The Permittee shall fulfill the applicable reporting requirements identified in Condition 5.10.5(b) and 40 CFR 63.7841(b)(4) and (c).

v. The Permittee shall keep records in accordance with 40 CFR 63.7842(a)(2) related to startup, shutdown and malfunction.

b. Provisions of State Emission Standards, pursuant to 35 IAC 201.149 and Part 201 Subpart I

i. Subject to the following terms and conditions, the Permittee is authorized to continue to operate in violation of the applicable standards as specified below in the event of a malfunction or breakdown.

A. For the basic oxygen furnace, the applicable state standards in Condition 7.5.3(a)(iii), (b)(ii) and (c)), and

B. For the LMF, the applicable state standards in Conditions 7.5.3(b)(iii) and (c).

Note: This authorization is provided because the Permittee applied for such authorization in its CAAPP application, generally explaining why such continued operation would be required to prevent injury to personnel or severe damage to equipment, and describing the measures that will be taken to minimize emissions from any malfunctions and breakdowns.

ii. This authorization only allows such continued operation as necessary to prevent injury to personnel or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee.

iv. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall, as soon as practicable, repair the units and/or re-establish applicable control practices.

v. The Permittee shall fulfill the applicable recordkeeping requirements of Condition 7.5.9(g) and reporting requirements of Condition 5.10.5-2.

vi. Following notification to the Illinois EPA (see Condition 5.10.5-2(a)(i)) of a malfunction or breakdown with excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident.

vii. This authorization does not relieve the Permittee from the continuing obligation to minimize excess emissions during malfunction or breakdown. As provided by 35 IAC 201.265, an authorization in a permit for continued operation with excess emissions during malfunction and breakdown does not shield the Permittee from enforcement for any such violation and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

7.5.5-3 Work Practices from Permits 72080043, 95010001 and 10080021

a. Pursuant to Permit 72080043 [T1]:

i. Overlapping operations of the BOF vessels is allowed under the following conditions:

A. The hot metal charge of the second vessel shall be initiated and completed during the time between completion of the blow and start of tap on the first vessel while sufficient draft at the ESP capture system is established and maintained for both vessels.

B. The charge and/or blow on one vessel shall not begin until sufficient draft has been established at the associated ESP capture system (a.k.a., doghouse) and the alloy addition at the vessel tapping has been completed for at least 1 minute.

C. Sufficient draft at the ESP capture system of the vessel being tapped shall be maintained for at least 1 minute after alloy addition has been completed. After such period, the capture system draft may be transferred over to the other vessel in order to satisfy Condition (A) above.

D. Only overlapping of the hot metal charge of the second vessel after the end of blow and prior to onset of tap of the first vessel and overlapping of tapping of the first vessel, after alloy addition, and the hot metal charge and/or blow on the second vessel are allowed.

E. Condition (B) and (C) above shall be part of the Standard Operating Procedure (SOP) of the BOF vessels.

ii. Each BOF vessel shall be equipped with a Fume Suppression System which shall be in use at all times that tapping is occurring during overlapping operations.

b. Pursuant to Permit 95010001 [T1]:

i. The BOF capture system shall be operated at the above minimum set points (see Condition 7.5.6(h)) until and unless the Illinois EPA approves a lower minimum set point based on a demonstration that a better level of particulate matter control will occur, except for purposes of emissions testing as related to the set point [T1].

ii. The Permittee shall operate, maintain, and repair the BOF ESP in a manner that assures compliance with the conditions of Permit 95010001 [T1].

iii. The Permittee shall maintain an adequate inventory of spare parts for the BOF ESP at all times [T1].

c. Pursuant to Permit 10080021 [T1]:

i. Beginning October 31, 2012, during the refining phase of operation, the steam rings on the BOFs shall be operated in accordance with written procedures developed by the Permittee that set forth the timing and rate of steam injection as related to furnace operation and reflect good air pollution control practice to minimize emissions of particulate matter.

ii. Prior to October 31, 2012, during the refining phase of operation, the steam rings on the BOFs shall be operated in accordance with good air pollution control practice to minimize emissions of particulate matter.

7.5.6 Production and Emission Limitations from Permit 95010001

a. Total combined production of liquid steel from the affected BOFs shall not exceed 11,000 net tons per day, averaged over any calendar month [T1].

b. BOF Shop Emissions (tons/yr total) shall not exceed the following limits [T1]:

PM	PM_{10}	NO_x	VOM	CO	Lead
510	451	70	12	16,097	1.43

c. BOF ESP Stack (charge, refine, tap) emissions shall not exceed the following limits [T1]:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.16	262.80
PM_{10}	0.16	262.80
NO_x	0.0389	69.63
VOM	0.0060	10.74
CO	8.993	16,097.47
Lead	0.1934 lbs/hr	1.26

d. BOF Roof Monitor emissions shall not exceed the following limits [T1]:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.0987	176.71
PM_{10}	0.06614	118.40
Lead	0.0129 lbs/hr	0.08

e. Hot Metal Desulfurization and Hot Metal Transfer emissions shall not exceed the following limits [T1]:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.03721	58.88
PM_{10}	0.03721	58.88
VOM	0.0010	1.58
Lead	0.0133 lbs/hr	0.09

f. Hot metal charging and ladle slag skimming emissions shall not exceed the following limits [T1]:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.0050	7.94
PM_{10}	0.0050	7.94

g. Emissions from Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy Baghouse #2) shall not exceed the following limits (see Section 7.1):

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.00715	12.80
PM_{10}	0.00715	12.80

h. The stack gas pulpit set point of the BOF ESP control system shall be set in accordance with the following, so as to establish sufficient particulate matter capture efficiency of the charging and primary hoods [T1]:

i. Set point requirements while only a single BOF vessel is in operation:

A. Minimum set point during charging operation: 550,000 cfm;

B. Minimum set point during refining operation: 650,000 cfm; and

C. Minimum set point during tapping operation: 200,000 cfm (until one minute after completing alloy addition).

ii. During dual operation of BOF vessels (a.k.a., overlapping BOF operation) the minimum set point shall be 700,000 cfm.

i. Compliance with the annual limits shall be determined on a calendar year basis [T1].

Note: These provisions (Conditions 7.5.6(a) through (i)) were originally established in Construction Permit 95010001.

j. Emissions of particulate matter from the Ladle metallurgy station and the existing argon stirring station shall not exceed 16.20 TPY [T1].

k. The maximum process weight for 1) argon stirring, 2) ladle reheat, 3) alloy addition, 4) ladle slag skimming, and 5) hot metal desulfurization shall not exceed 356.7 t/hr for 8,760 hours per year [T1].

Note: These provisions (Conditions 7.5.6(j) and (k)) were originally established in Permit 83050042.

7.5.7 Testing Requirements

a. Testing requirements in 40 CFR Part 63 Subpart FFFFF:

i. Pursuant to 40 CFR 63.7821(b), for the Basic Oxygen Furnaces (which are equipped with a control device other than a baghouse), the Permittee shall conduct subsequent performance tests no less frequently than twice (at mid-term and renewal) during each term of the title V operating permit (i.e., this CAAPP permit).

ii. Pursuant to 40 CFR 63.7821(c), for each Basic Oxygen Furnace Process equipped with a baghouse, the Permittee shall conduct subsequent performance tests no less frequently than once during each term of the Title V operating permit (every 60 months).

iii. The Permittee shall use the following test methods for compliance demonstration with the emission limits for particulate matter [40 CFR 63.7822(b)]:

A. The Permittee shall determine the concentration of particulate matter according to the following test methods in Appendix A to 40 CFR Part 60.

1. Method 1 to select sampling port locations and the number of traverse points. Sampling ports must be located at the outlet of the control device and prior to any releases to the atmosphere.

2. Method 2, 2F, or 2G to determine the volumetric flow rate of the stack gas.

3. Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.

4. Method 4 to determine the moisture content of the stack gas.

5. Method 5, 5D, or 17, as applicable, to determine the concentration of particulate matter (front half filterable catch only).

B. The Permittee shall collect a minimum sample volume of 60 dry standard cubic feet (dscf) of gas during each particulate matter test run. Three valid test runs are needed to comprise a performance test.

iv. Pursuant to 40 CFR 63.7822(g), for the BOF ESP (which is a primary emission control system applied to emissions from a BOF with an open hood system), the Permittee shall complete the following requirements:

A. Sample only during the steel production cycle. The Permittee shall conduct sampling under conditions that are representative of normal operation. The Permittee shall record the start and end time of each steel production cycle and each period of abnormal operation; and

B. Sample for an integral number of steel production cycles. The steel production cycle begins when the scrap is charged to the BOF and ends 3 minutes after the slag is emptied from the vessel into the slag pot.

v. Pursuant to 40 CFR 63.7822(h), for a control device applied to emissions from BOPF shop ancillary operations (hot metal transfer, slag skimming, hot metal desulfurization, or ladle metallurgy), the Permittee shall sample only when the operation(s) is being conducted.

vi. The Permittee shall conduct each visible emissions performance test such that the opacity observations overlap with the performance test for particulate matter [40 CFR 63.7823(b)].

vii. The following test methods shall be used for opacity observations pursuant to 40 CFR 63.7823(d):

Using a certified observer, the Permittee shall determine the opacity of emissions according to Method 9 in Appendix A to Part 60 as specified below:

A. Instead of procedures in section 2.4 of Method 9 in Appendix A to 40 CFR Part 60, the Permittee shall record observations to the nearest 5 percent at 15-second intervals for at least three steel production cycles.

B. Instead of procedures in section 2.5 of Method 9 in Appendix A to 40 CFR Part 60, the Permittee shall determine the 3-minute block average opacity from the average of 12 consecutive observations recorded at 15-second intervals.

b. Pursuant to Sections 39.5(7)(d) and (p) of the Act, in conjunction with the testing of emissions required for an emission unit in the BOF shop by the NESHAP (Condition 7.5.7(a) which requires testing at the midterm and renewal of this CAAPP permit), the Permittee shall also have testing conducted to measure emissions of other pollutants as follows.

i. Testing shall be conducted for PM/PM_{10}*, lead and other pollutants as follow: BOF Furnaces (ESP) - NO_x, VOM and CO; and Hot Metal Desulfurization and Slag Skimming (Baghouses) - VOM.

* As an alternative to measurements for PM_{10} emissions, the measured results for PM, as determined in accordance with the NESHAP, shall be considered PM10, as provided for by 35 IAC 212.108.

ii. The relevant test method specified by the NESHAP or the following USEPA test methods shall be used for this testing, unless another USEPA test method is approved by the Illinois EPA during the review of a Test Plan submitted by the Permittee prior to testing.

Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3
Moisture	Method 4
VOM	Method 18 or 25A
NO_x	Method 7E or 19
CO	Method 10 or 10B
Lead	Method 29

iii. For this emission testing, test notifications and reporting shall be done by the Permittee in accordance with Condition 8.6.2 and 8.6.3 of this permit.

c. As provided by 35 IAC 212.446(c), observations to determine compliance with the opacity standard in 35 IAC 212.446(c) (see Condition 7.5.3(a)(iii)) shall be performed in accordance with 40 CFR Part 60, Appendix A, Method 9, incorporated by reference in 35 IAC 212.113, except that compliance shall be determined by averaging any 12 consecutive observations taken at 15 second intervals.

7.5.8 Monitoring and Inspection Requirements

a. Monitoring (40 CFR 63.7830)

i. For the capture system for secondary emissions from the Basic Oxygen Furnaces (which are subject to an operating limit in 40 CFR 63.7790(b)(1) established in Permittee's capture system operation and maintenance plan), the Permittee shall install, operate, and maintain a continuous parameter monitoring system (CPMS) according to the requirements in 40 CFR 63.7831(e) and the requirements in 40 CFR 63.7830(a)(1) through (3).

ii. The Permittee shall operate and maintain a bag leak detection system on Baghouse #2 and the slag skimmer baghouse according to 40 CFR 63.7831(f) and monitor the relative change in particulate matter loadings according to the requirements in 40 CFR 63.7832.

iii. The Permittee shall conduct inspections of each baghouse at the specified frequencies according to the following requirements [40 CFR 63.7830(b)(4)]:

A. Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the operation and maintenance manual.

B. Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.

C. Check the compressed air supply for pulse-jet baghouses each day.

D. Monitor cleaning cycles to ensure proper operation using an appropriate methodology.

E. Check bag cleaning mechanisms for proper functioning through monthly visual inspections or equivalent means.

F. Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (kneed or bent) or laying on their sides. The Permittee does not have to make this check for shaker-type baghouses using self-tensioning (spring-loaded) devices.

G. Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.

H. Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means.

iv. For the ESP controlling the BOF furnaces (which are subject to an opacity limit of 10 percent, hourly average, pursuant to 40 CFR 63.7790(b)(3)), the Permittee shall operate and maintain a continuous opacity monitoring system (COMS) according to the requirements in 40 CFR 63.7831(h) and monitor the hourly average opacity of emissions exiting the stack according to the requirements in 40 CFR 63.7832 [40 CFR 63.7830(d)].

If the hourly average opacity for the ESP exceeds the operating limit, the Permittee shall follow the following procedures [40 CFR 63.7833(g)]:

A. The Permittee shall initiate corrective action to determine the cause of the exceedance within 1 hour. During any period of corrective action, the Permittee must continue to monitor and record all required operating parameters for equipment that remains in operation. Within 24 hours of the exceedance, the Permittee shall measure and record the hourly average operating parameter value for the emission unit on which corrective action was taken. If the hourly average parameter value meets the applicable operating limit, then the corrective action was successful and the emission unit is in compliance with the applicable operating limit.

B. If the required initial corrective action was not successful, the Permittee shall complete additional corrective action within the next 24 hours (48 hours from the time of the exceedance). During any period of corrective action, the Permittee shall continue to monitor

and record all required operating parameters for equipment that remains in operation. After this second 24-hour period, the Permittee shall again measure and record the hourly average operating parameter value for the emission unit on which corrective action was taken. If the hourly average parameter value meets the applicable operating limit, then the corrective action was successful and the emission unit is in compliance with the applicable operating limit.

C. For purposes of 40 CFR 63.7833(g)(1) and (2), in the case of an exceedance of the hourly average opacity operating limit for an ESP, measurements of the hourly average opacity based on visible emission observations in accordance with Method 9 may be taken to evaluate the effectiveness of corrective action.

D. If the second attempt at corrective action required in paragraph 40 CFR 63.7833 (g)(2) was not successful, the Permittee shall report the exceedance as a deviation in the next semiannual compliance report according to 40 CFR 63.7841(b).

b. Installation, operation, and maintenance requirements for monitors [40 CFR 63.7831]

i. For the slag skimmer baghouse and Baghouse #2 (which are subject to 40 CFR 63.7830(b)(1)), the Permittee shall operate and maintain the bag leak detection system according to the following requirements [40 CFR 63.7831(f)]:

A. The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

B. The system must provide output of relative changes in particulate matter loadings.

C. The system must be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over a preset level. The alarm must be located such that it

can be heard by the appropriate plant personnel.

D. Each system that works based on the triboelectric effect must be installed, operated, and maintained in a manner consistent with the guidance document, "Fabric Filter Bag Leak Detection Guidance," EPA-454/R-98-015, September 1997. The Permittee may install, operate, and maintain other types of bag leak detection systems in a manner consistent with the manufacturer's written specifications and recommendations.

E. To make the initial adjustment of the system, the Permittee shall establish the baseline output by adjusting the sensitivity (range) and the averaging period of the device. Then, the Permittee shall establish the alarm set points and the alarm delay time.

F. Following the initial adjustment, the Permittee may not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in the Permittee's operation and maintenance plan. The Permittee may not increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365-day period unless a responsible official certifies, in writing, that the baghouse has been inspected and found to be in good operating condition.

G. Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

ii. For the ESP (which is subject to the opacity limit in 40 CFR 63.7790(b)(3)), the Permittee shall install, operate, and maintain a COMS according to the following requirements in 40 CFR 63.7831 (h)(1) through (4):

A. The Permittee shall install, operate, and maintain each COMS according to Performance Specification 1 in 40 CFR Part 60, Appendix B.

B. The Permittee shall conduct a performance evaluation of each COMS according to 40 CFR 63.8 and Performance Specification 1 in Appendix B to 40 CFR Part 60.

C. Each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

D. COMS data must be reduced to 6-minute averages as specified in 40 CFR 63.8(g)(2) and to hourly averages where required by 40 CFR 63 Subpart FFFFF.

c. Pursuant to the operation and maintenance requirements of the O/M plan required by 40 CFR 63.7800(b), the Permittee shall comply with following inspection procedures for the capture systems and controls:

Monthly inspections of the equipment that is important to the performance of the total capture system. This inspection must include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). Repair of any defect or deficiency in the capture system shall be done before the next scheduled inspection.

d. Monitoring of capture and control systems for Basic Oxygen Furnaces (from Permit 95010001):

i. The Permittee shall operate and maintain the waste gas suction monitor system for the capture system for the Basic Oxygen Furnace that continually measures and records each operation (i.e., for each charge, each refine, each tap) of each steel production cycle the static pressure in the main downcommer duct of the ESP emissions capture and transport system.

A. The Permittee shall use the waste gas suction monitoring system as a mechanism to ensure sufficient draft is maintained in the emissions capture hoods and transport ducts so as to maximize emissions capture and transport and minimize uncaptured emissions and emission leaks.

B. The Permittee shall operate and maintain the system to ensure that accurate and useful data is collected.

C. The Permittee shall continuously record the static pressure in the main down comer duct of the ESP emissions capture and transport system.

ii. The Permittee shall calibrate, operate, and maintain a continuous strip chart recorder or disk storage of the ESP stack gas flow rate as measured by the stack gas flow meter during ESP use.

iii. The stack gas flow meter shall be calibrated on at least a quarterly basis.

iv. A. The Permittee shall visually inspect at least monthly all visible BOF vessel enclosures, hooding and ducts used to capture and transport emissions for the BOF ESP control system.

B. A log shall be maintained of these inspections which includes observations of the physical appearance of the capture system and any noted deficiencies (e.g., the presence of any holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion).

C. Any leaks or areas otherwise noted to be in need of repair, shall be repaired expeditiously.

e. Opacity observations for 35 IAC 212.446(c);

The following opacity observations shall be performed pursuant to Section 39.5(7)(a) and (p) of the Act:

i. The Permittee shall have the opacity of the exhaust of the building housing the BOF determined by a qualified observer in accordance with USEPA Method 9 while the affected BOF(s) is operating, as further specified below.

A. Observations of opacity shall be conducted on the following frequency unless absence of adequate daylight or weather conditions preclude scheduled observation, in which case, the next observations shall be conducted on the next operating day of the BOF during which observations of opacity can reasonably be conducted in accordance with USEPA Method 9, except that reading shall be taken as a 3-minute average (12 consecutive observations taken 15 seconds intervals).

B. If a baghouse is not installed for control of tapping emissions from the BOF, these readings shall be performed for at least five days out of every seven. A day is defined as any day when a BOF is in operation for a minimum of

four hours during conditions that are acceptable for Method 9 readings. A minimum of 60 consecutive minutes of opacity readings must be obtained and must encompass at least one steel production cycle. A production cycle is defined as the beginning of scrap charging to the completion of deslagging of the steelmaking vessel. Results of these readings shall be reduced to three minute rolling averages.

C. Beginning 30 days after initial startup of a baghouse for control of tapping emissions from the BOFs, the Permittee shall have the opacity of the exhaust of the building housing the BOF determined by a qualified observer in accordance with USEPA Method 9 while the affected BOF(s) are operating, as further specified below.

1. The duration of opacity observations for each test shall be one complete steel making cycle.

2. Observations of opacity shall be conducted on the following frequency unless absence of adequate daylight or weather conditions preclude scheduled observation, in which case, the next observations shall be conducted on the next operating day of the BOF during which observations of opacity can reasonably be conducted in accordance with USEPA Method 9.

3. On a weekly basis (at least once every seven operating days of BOF) except as provided below.

4. On a daily basis (at least 5 days out of seven operating days of BOF) if any of the five previous 3-minute average observations measured opacity of 18 percent or more, continuing on a daily basis until the maximum opacities measured in five consecutive daily observations are all less than 18 percent, at which time observations on a weekly basis shall resume.

ii. Upon written request by the Illinois EPA, additional opacity observations shall be conducted within 5 operating days for the BOF from the date of the request by the Illinois EPA or on the date agreed upon by the Illinois EPA, whichever is later. For

such observations conducted pursuant to a request from the Illinois EPA:

A. The Permittee shall notify the Illinois EPA at least 24 hours in advance of the date and time of these observations, in order to enable the Illinois EPA to witness the observations. This notification shall include the name and employer of the qualified observer(s).

B. The Permittee shall promptly notify the Illinois EPA of any changes in the time or date for observations.

C. The duration of these observations shall cover a complete heat or cycle of the affected BOF.

D. The Permittee shall provide a copy of the current certification for the opacity observer and observer's readings to the Illinois EPA at the time of the observations, if the Illinois EPA personnel are present.

E. The Permittee shall keep records for all opacity measurements for the BOF made in accordance with USEPA Method 9 for the affected operations that the Permittee conducts or that are conducted at its behest by individuals who are qualified to make such observations. For each occasion on which such measurements are made, these records shall include the formal report for the measurements, a description of the measurements that were made, the operating condition of the affected operations, the observed opacity, and copies of the raw data sheets for the measurements.

iii. A. The Permittee shall determine the opacity from the BOF ESP stack for at least one hour on any normal work day that the continuous opacity monitor on the BOF ESP stack has an outage that exceeds two consecutive hours and is still down. The readings shall commence as soon as possible after the opacity monitor has been down for two consecutive hours. If meteorological conditions or lack of visibility preclude these observations from being conducted, then this shall be noted in the log book.

B. The opacity shall be determined in accordance with the observation procedures set out in 40 CFR Part 60, Appendix A, Method 9.

f. Monitoring and Collecting Data [40 CFR 63.7832]:

i. For purposes of the NESHAP, 40 CFR 63 Subpart FFFFF, except for monitoring malfunctions, out-of-control periods as specified in 40 CFR 63.8(c)(7), associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), the Permittee shall monitor continuously (or collect data at all required intervals) at all times a subject control/capture system is operating.

ii. The Permittee may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels or to fulfill a minimum data availability requirement, if applicable. The Permittee shall use all the data collected during all other periods in assessing compliance.

iii. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

g. Operational Monitoring for Steam Rings from Construction Permit 10080021:

The Permittee shall install, maintain and operate a continuous monitoring system on each steam ring for the steam valve position (open or closed) and the rate at which steam is being injected.

7.5.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. 40 CFR 63 Subpart FFFFF (40 CFR 63.7842 and 63.7843)

i. The Permittee shall keep the following records specified in 40 CFR 63.7842 (a)(1) through (a)(3):

A. A copy of each notification and report that the Permittee submitted to comply with 40 CFR 63 Subpart FFFFF, including all documentation supporting any initial notification or notification of compliance status that the Permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).

B. The records in 40 CFR 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

C. Records of performance tests, performance evaluations, and opacity observations as required in 40 CFR 63.10(b)(2)(viii).

ii. For each COMS, the Permittee shall keep the following records specified in 40 CFR 63.7842 (b)(1) through (4):

A. Records described in 40 CFR 63.10(b)(2)(vi) through (xi).

B. Monitoring data for a performance evaluation as required in 40 CFR 63.6(h)(7)(i) and (ii).

C. Previous (that is, superseded) versions of the performance evaluation plan as required in 40 CFR 63.8(d)(3).

D. Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

iii. The Permittee shall keep the records specified in 40 CFR 63.6(h)(6) for visual observations.

iv. The Permittee shall keep the records required in 40 CFR 63.7833 and 63.7834 to show continuous compliance with each emission limitation and operation and maintenance requirement that applies to the Permittee.

v. The Permittee shall keep the records in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1).

vi. As specified in 40 CFR 63.10(b)(1), the Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

vii. The Permittee shall keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). The

Permittee may keep the records offsite for the remaining 3 years.

viii. The Permittee shall maintain a current copy of the operation and maintenance plan required in 40 CFR 63.7800(b) onsite and available for inspection upon request.

ix. A. The Permittee shall maintain a copy of the site-specific monitoring plan for each CPMS required by 40 CFR 63.7830, pursuant to 40 CFR 63.7831(a).

B. If the Permittee operates under manufacturer's specifications or manufacturer's instructions, such manufacturer's documentation shall be kept at the source as part of the required records.

b. Recordkeeping from Permits 72080043 and 95010001:

i. Operating time of the BOFs;

ii. Operating time of the capture systems and performance parameters, including air flow and fan amperage through the fan motors, gas temperature at inlet to ESP, damper settings, and steam injection rate;

iii. Operating time of the ESP and performance parameters, including voltage and amperage of each transformer/rectifier set, number of sections in use;

iv. All routine and nonroutine maintenance performed, including dates and duration of outages, inspection schedule and findings, leaks detected, repair actions, and replacements;

v. Total production of molten steel at the BOFs (daily, monthly, and annual production in tons);

vi. The Permittee shall keep a continuous strip chart recorder or disk storage of the stack gas flow rate during ESP use.

vii. The Permittee shall records for each steel production cycle the various stack gas flow rates for each process (i.e., for each charge, each refine, each tap) of each steel production cycle. That is, the Permittee shall be able to distinguish the measured flow rate of stack gas during each production cycle.

ix. Records of all opacity observations.

c. Recordkeeping carried over from Permit 08110016:

The operating and maintenance records that the Permittee maintains for the ESP shall include the following information for the induced draft fans on the ESP, in addition to other required information:

i. The periods of time when the BOFs operated with less than three properly functioning fans, with description and explanation.

ii. The periods of time when the BOFs are operating and a spare fan is not available, with the identity of the fan(s) that were not available and explanation, e.g., spare fan not available due to regularly scheduled maintenance or spare fan not available due to unplanned breakdown of the main bearings.

d. Recordkeeping for the steam rings on the BOF furnaces from Construction Permit 10080021:

i. A. The Permittee shall maintain a record of the steam valve position (open or closed) and the rate at which steam is being injected, as determined by the continuous monitoring systems required by Condition 7.5.8(g).

B. In addition to keeping records of the data measured by these monitoring systems, the Permittee shall keep records of the operation, calibration and maintenance of these systems.

ii. The Permittee shall maintain an operating log or other records for the BOF and steam rings that contain information generally documenting the steam rings are being operated in accordance with Condition 7.5.5-3(c), including information for the timing of the refining phase of each heat of a BOF furnace.

iii. The Permittee shall maintain detailed records of the following information for each heat in a BOF furnace in which the steam ring was not operated during the refining phase:

A. Identification of the heat and the duration of the incident, i.e., start time and time normal operation was achieved or the refining phase was completed.

B. Description of the incident, impact on effectiveness of the steam ring, probable cause, and corrective actions.

C. Verification that the established procedures were followed or a description and explanation why procedures were not followed.

Note: These records may be kept with other logs or records that the Permittee keeps for the BOF furnaces and their instrumentation and need not be kept as a separate record.

e. The Permittee shall keep annual records (tons/year) of steel processed at the slag skimming station, the argon stirring station and ladle metallurgy furnace station.

f. Emission Records

The Permittee shall keep the following records related to the emissions of the affected basic oxygen processes to verify compliance with the applicable limits in Conditions 7.5.6(b) through (g):

i. A file containing the emission factors used by the Permittee to determine emissions of different pollutants from such processes, with supporting documentation. These records shall be reviewed and updated by the Permittee as necessary to assure that the emission factors that it uses to determine emissions of the affected processes do not understate actual emissions, including review when emission testing is conducted for an affected process. These records shall be prepared and copies sent to the Illinois EPA in accordance with Condition 5.9.6(c), except that copies of the initial records shall be submitted to the Illinois EPA no later than August 3, 2012.

ii. Records for any periods of operation of an affected process that are not otherwise addressed in the required records during which the established emission factor in Condition 7.5.9(f)(i) would understate actual emissions of the process, with description of the period of operation and an estimate of the additional emissions during such period that are not accounted for by the established factor, with supporting explanation and calculations.

iii. Records for the annual emissions of such processes for comparison to the limits in Conditions 7.5.6(c) through (g), with supporting calculations.

iv. Records for combined annual emissions of such affected processes, based on the summation of the above data, for comparison to the limits in Condition 7.5.6(b).

g. In the operational logs or other records for the operation of the affected basic oxygen processes, the Permittee shall keep records identifying process upsets that result in the generation of additional opacity or PM emissions, such as loss of the slag cover on the molten metal in a vessel or a spill of molten metal. For these upsets, these records shall include the time of the upset, a description of the upset, and a discussion of the consequences for PM emissions from the affected basic oxygen processes.

h. Records for Malfunctions or Breakdowns

Pursuant to 35 IAC 201.263, the Permittee shall maintain records of continued operation of the affected Basic Oxygen Furnace and Ladle Metallurgy Furnace as addressed by Condition 7.5.5-2(b), during malfunctions or breakdowns, which at a minimum, shall include the following records. The preparation of these records shall be completed within 45 days of an incident, unless the Permittee conducts a root cause analysis for the incident, in which case the preparation of these records, other than the root cause analysis, shall be completed within 120 days of the incident.

i. Date, time and duration of the incident.

ii. A detailed description of the incident, including:

A. A chronology of significant events during and leading up to the incident.

B. Relevant operating data for the unit, including information such as operator log entries and directives provided by management during the incident.

C. The measures taken to reduce the quantity of emissions and the duration of the incident including the resources utilized to address the incident.

D. The magnitude of emissions during the incident.

iii. An explanation why continued operation of an affected basic oxygen furnace was necessary to prevent personnel injury or prevent equipment damage.

iv. A discussion of the cause(s) or probable cause(s) of the incident including the following,

A. Whether the incident was sudden, unavoidable, or preventable, including:

1. Why the equipment design did not prevent the incident;

2. Why better maintenance could not have avoided the incident;

3. Why better operating practices could not have avoided the incident; and

4. Why there was no advance indication for the incident.

B. Whether the incident stemmed from any activity or event that could have been foreseen, avoided or planned for.

C. Whether the incident was or is part of a recurring pattern indicative of inadequate design, operation or maintenance.

v. A description of any steps taken or to be taken to prevent similar future incidents or reduce their frequency and severity.

vi. As an alternative to keeping the records required by Condition 7.5.9(g)(iv), the Permittee may perform a root cause analysis. For this purpose, a root cause analysis is an analysis whose purpose is to determine, correct and eliminate the primary causes of the incident and the excess emissions resulting there from. If the Permittee performs a root cause analysis method that would define the problem, define all causal relationships, provide a causal path to the root cause, delineate the evidence, and provide solutions to prevent a recurrence. Such an analysis shall be completed within one year of the incident.

7.5.10 Reporting Requirements

a. 40 CFR Part 63, Subpart FFFFF (40 CFR 63.7841)

i. Compliance report due dates. Unless the Administrator has approved a different schedule, the Permittee shall submit a semiannual compliance report to the permitting authority according to the following requirements:

A. Semi-annual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

B. Each compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.

ii. Compliance report contents. Each compliance report shall include the following information:

A. Company name and address.

B. Statement by a responsible official, with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

C. Date of report and beginning and ending dates of the reporting period.

D. If the Permittee had a startup, shutdown, or malfunction during the reporting period and the Permittee took actions consistent with the source's startup, shutdown, and malfunction plan, the compliance report must include the information in 40 CFR 63.10(d)(5)(i).

E. If there were no deviations from the continuous compliance requirements in 40 CFR 63.7833 and 63.7834 that apply to the Permittee, a statement that there were no deviations from the emission limitations or operation and maintenance requirements during the reporting period.

F. If there were no periods during which a continuous monitoring system (including a CPMS, COMS, or continuous emission monitoring system (CEMS)) was out-of-control as specified in 40 CFR 63.8(c)(7), a statement that there were no periods during which the CPMS was out-of-control during the reporting period.

G. For each deviation from an emission limitation in 40 CFR 63.7790 that occurs at each Basic Oxygen Process where the Permittee is not using a continuous monitoring system (including a CPMS, COMS, or CEMS) to comply with an emission limitation in 40 CFR Subpart FFFFF, the compliance report must contain the information described in Condition 7.5.10(a)(ii)(A) through (F) and the following information (this includes periods of startup, shutdown, and malfunction):

1. The total operating time of each Basic Oxygen Process during the reporting period.

2. Information on the number, duration, and cause of deviations (including unknown cause, if applicable) as applicable and the corrective action taken.

H. For each deviation from an emission limitation occurring at each Basic Oxygen Furnace Process where the Permittee is using a continuous monitoring system (including a CPMS or COMS) to comply with the emission limitation in 40 CFR 63 Subpart FFFFF, the Permittee shall include the following information (this includes periods of startup, shutdown, and malfunction):

1. The date and time that each malfunction started and stopped.

2. The date and time that each continuous monitoring was inoperative, except for zero (low-level) and high-level checks.

3. The date, time, and duration that each continuous monitoring system was out-of-control as specified in 40 CFR 63.8(c)(7), including the information in 40 CFR 63.8(c)(8).

4. The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

5. A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

6. A breakdown of the total duration of the deviations during the reporting period including those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

7. A summary of the total duration of continuous monitoring system downtime during the reporting period and the total duration of continuous monitoring system downtime as a percent of the total source

operating time during the reporting period.

8. A brief description of the Basic Oxygen Processes.

9. A brief description of the continuous monitoring system.

10. The date of the latest continuous monitoring system certification or audit.

11. A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.

iii. Immediate startup, shutdown, and malfunction report. If the Permittee had a startup, shutdown, or malfunction during the semiannual reporting period that was not consistent with the source's startup, shutdown, and malfunction plan, the Permittee shall submit an immediate startup, shutdown, and malfunction report according to the requirements in 40 CFR 63.10(d)(5)(ii).

b. Monthly Opacity Exceedance Report.

Monthly opacity exceedance reports for the BOF ESP shall be sent to the Illinois EPA Regional Office. These reports shall contain all opacity measurements which exceed 30 percent, averaged over a six minute period. These "excess opacity" reports shall provide, for each such incident, the percent opacity measured as well as the date and span of such incident. These reports shall state the reasons for the excess opacity. The reports shall also specify the dates of those periods during which the continuous monitoring system was not in operation [Section 39.5(7)(f)(ii) of the Act].

c. Reporting Requirements from Permit 08110016:

After the initial year of operation (12 calendar months) of the BOF with an ESP with four fans, the Permittee shall submit a report to the Illinois EPA that evaluates the impacts of the addition of a fourth fan to the ESP on the particulate matter emissions of the BOF. This report shall, at a minimum, include the following information and address impacts on both stack emissions of particulate matter (i.e., emissions from the ESP stack) and uncaptured emissions of particulate matter (e.g., emissions from the roof monitor of the BOPF Shop). This report shall be

submitted by the end of the third month following the initial year of operation with an ESP with four fans.

i. A description of typical operating scenarios in which the availability of a spare fan resulted in a decrease in short-term emissions, with an assessment of the changes in the hourly emission rates, with supporting documentation and calculations.

ii. A description of typical operating scenarios, if any, in which the availability of a spare fan resulted in an increase in short-term emissions, with an assessment of the changes in the hourly emission rates, with supporting documentation and calculations.

iii. An assessment of the overall effect of the addition of a fourth fan on actual annual emissions of the BOF, with supporting operating data and calculations.

d. i. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the Illinois EPA, Air Compliance Section, within 30 days of deviations by the Basic Oxygen Furnace Processes from applicable requirements, unless a NESHAP standard specifies a different timeframe, as follows:

A. Requirements in Condition 7.5.3.

B. Requirements in Condition 7.5.5-1.

C. Requirements in Condition 7.5.5-3.

D. Requirements in Condition 7.5.6(a) through (k).

ii. All such deviations shall be summarized and reported as part of the semiannual monitoring report required by Condition 8.6.1.

iii. The Permittee shall notify the Illinois EPA, Air Compliance Section, of all other deviations as part of the semiannual monitoring reports required by Condition 8.6.1.

iv. All required deviation reports described in Condition 7.5.10(d) above shall contain the following information:

A. Date, time and duration of the deviation;

B. Description of the deviation;

C. Probable cause of the deviation; and

D. Any corrective action or preventative measures taken.

e. Reporting on malfunction and breakdown shall be performed in accordance with Condition 5.10.5-2

f. Reporting Requirements from Permit 10080021:

i. Within six months of initial startup of the steam rings on the affected BOFs, the Permittee shall submit to the Illinois EPA: 1) A Project Report; and 2) A draft of the Permittee's written operating procedures for the steam rings, as required by Condition 7.5.5-3(c), for review and comment by the Illinois EPA. This Project Report shall include the following:

A. An assessment, with supporting documentation, of the effect of the steam rings on the opacity and, as feasible, particulate loading of the exhaust from the roof monitor of the BOPF Shop during refining, correlated with the rate of steam injection and other operating parameters of the BOF's and their control system; and

B. An identification of circumstances, if any, in which the steam rings must be operated to maintain compliance with applicable emission standards.

ii. The Permittee shall submit reports to the Illinois EPA on a semi-annual basis that include the following information for the operation of the steam rings on the affected BOFs:

A. Total number of heats during the reporting period.

B. Number of heats during the reporting period without steam rings operating properly, by type of incident, e.g., breakdown of the steam ring interrupting operation, malfunction of the steam ring with insufficient steam flow, or breakdown of support system.

g. Reporting on the Federal SSM authorization shall be performed in accordance with Condition 5.10.5-3.

7.5.11 Operational Flexibility/Anticipated Operating Scenarios

The Basic Oxygen Furnaces shall only be operated as top oxygen injected vessels, except that, for purposes of checkout and emission testing only, the furnaces may be operated as peripheral and bottom oxygen injected furnaces for a maximum of

120 days. Any further operation of the furnaces as other than top oxygen injected vessels shall be pursuant to a permit granted for such additional operation [72080043].

7.5.12 Compliance Procedures

a. Compliance with the applicable standards of Condition 7.5.3 is addressed by the work practices, testing, monitoring, recordkeeping and reporting requirements in Section 7.5 of this permit.

b. Compliance with the production/emission limits of Conditions 7.5.6 and 5.6.2 is addressed by the work practices, testing monitoring, recordkeeping and reporting requirements in Sections 7.5 and 5 of this permit.

7.5.13 Compliance Schedule and Current Enforcement Status

a. The Permittee shall comply with the following schedule of compliance applicable to BOF shop emissions and established in accordance with modified Consent Order 05-CH-750 (December 23, 2009):

Commitment	Timing
Certify compliance	March 31, 2011

b. Submittal of Progress Reports

Quarterly Progress Reports shall be submitted beginning with September 2011 and ending upon the achievement of compliance. Each quarterly report shall be submitted no later than 5 days after the end of the corresponding calendar month. The Progress Report shall contain at least the following:

i. The required date for achieving commitments, and actual dates when such commitments were achieved.

ii. Any commitments accepted by the Permittee or otherwise established for the affected BOF as part of the resolution of the above referenced Consent Order, with the associated timing for each commitment.

iii. A discussion of progress in complying with commitments that are subject to future deadlines.

iv. If any commitment was not met, an explanation of why the required timeframe or commitment was not met, and any preventive or corrective measures adopted to achieve required commitment.

c. After completion of all required commitments and certification of compliance, as identified in Condition

7.5.13(a) no further Quarterly Progress Reports are required to be submitted.

7.5.14 State-Only Conditions

State-only conditions are not being established.

7.6 Continuous Casting

7.6.1 Description

There are two continuous casting lines in operation in the caster building. Ladles of molten steel are hoisted by crane and placed in revolving turrets located at the top of the casters. Each turret holds two ladles at a time. When one ladle of steel has been cast the turret is rotated and the second ladle is tapped. The empty ladle is then replaced with a full one. The tapping process involves opening the taphole located on the bottom of the ladle and allowing the molten steel to flow into an intermediate chamber called a "Tundish". The Tundish has a taphole in the bottom through which the molten steel flows directly into the casters. The Tundish maintains a steady stream of molten steel flowing into the caster while ladles are being changed.

The molten steel from the casters continuously passes through a system of rollers and straighteners. Water is sprayed onto the slab throughout this process to complete the solidification of the slab.

Note: This narrative description is for informational purposes only and is not enforceable.

7.6.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Continuous Casting	Steel Deslagging Station	Pre-1986	None
	Caster Molds 1 and 2	Pre-1990	None
	Casters #1 and #2: Spray Chambers	Pre-1981 (#1) Around 1988 (#2)	None
	Slab Cut-off	N/A	None
	Slab Ripping	N/A	None

7.6.3 Applicable Provisions and Regulations

a. The "affected continuous casting operations" for the purpose of these unit-specific conditions are the operations and emission units described in Conditions 7.6.1 and 7.6.2.

b. Pursuant to 35 IAC 212.458(b) and (c), the affected continuous casting operations shall comply with the following:

No person shall cause or allow emissions of PM_{10}, other than that of fugitive particulate matter, into the atmosphere to exceed the following limits during any one hour period:

i. 22.9 mg/scm (0.01 gr/scf) from any process emissions unit provided however that this limit shall not apply if there are no visible emissions, except if a stack test is performed, the absence of visible emissions is not a defense to a finding of violation [35 IAC 212.458(b)(7) and (c)]; and

ii. 5 percent opacity for continuous caster spray chambers or continuous casting operations [35 IAC 212.458(b)(8)].

Note: These standards currently do not apply to slab cut-off and slab ripping processes which are not vented through stacks.

c. Pursuant to 35 IAC 212.316(f), the affected continuous casting operations shall comply with the following:

No person shall cause or allow fugitive particulate matter emissions from any emission unit to exceed an opacity of 20 percent.

7.6.4 Non-Applicability of Regulations of Concern

a. The emission limitations of 35 IAC 212.324 are not applicable to any emission unit subject to a specific emissions standard or limitation contained in 35 IAC Part 212 Subpart R, Primary and Fabricated Metal Products and Machinery Manufacture, pursuant to 35 IAC 212.324(a)(3).

b. The affected continuous casting operations are not subject to 40 CFR Part 63 Subpart FFFFF, Integrated Iron and Steel Manufacturing, because continuous casting is not defined as part of BOPF and shop ancillary operations in 40 CFR 63.7782(c).

c. The affected continuous casting operations are not subject to 35 IAC 212.309 and 212.310 because those operations are not identified in 35 IAC 212.304 through 212.308.

7.6.5 Control Requirements and Work Practices

Pursuant to 35 IAC 212.450, particulate matter emissions from liquid steel charging in continuous casting operations shall be controlled by chemical or mechanical shrouds.

7.6.6 Production and Emission Limits from Permit 95010001 [T1]:

a. Emissions from Deslagging Station and associated Material Handling System (see Section 7.1) shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.00355	6.35
PM_{10}	0.00355	6.35

b. Emissions from Caster Molds - Casting shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.006	10.74
PM_{10}	0.006	10.74
NO_x	0.050	89.50

c. Emissions from Casters Spray Chambers shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.00852	15.25
PM_{10}	0.00852	15.25

d. Emissions from Slab Cut-off shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.0071	12.71
PM_{10}	0.0071	12.71

e. Emissions from Slab Ripping shall not exceed the following limits:

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.00722	12.92
PM_{10}	0.00722	12.92

f. Total Emissions from Continuous Casting operations shall not exceed the following limits:

	PM (Tons/Yr)	PM_{10} (Tons/Yr)	NO_x (Tons/Yr)
Continuous Casting Operations	71	71	90.0

g. Compliance with annual limits shall be determined on a calendar year basis [T1].

7.6.7 Testing Requirements

a. The Permittee shall conduct opacity observations for the affected continuous casting operations as specified below [Sections 39.5(7)(d) and (p) of the Act]:

i. Semi-annual observations shall be performed by a qualified observer in accordance with USEPA Method 9 for each spray chamber stack and continuous caster building openings while the casters are operating. The duration of opacity observations for each stack and the building shall be at least 30 minutes unless no visible emissions are observed from a stack or the building during the first 12 minutes of observations.

ii. Upon written request by the Illinois EPA, additional opacity observations shall be conducted within 5 operating days from the date of the request or by the date agreed upon by the Illinois EPA, whichever is later. For these observations:

A. The Permittee shall notify the Illinois EPA at least 24 hours in advance of the date and time of these observations, in order to enable the Illinois EPA to witness the observations. This notification shall include the name and employer of the qualified observer(s).

B. The Permittee shall promptly notify the Illinois EPA of any changes in the time or date for observations.

C. The duration of these observations shall be three hours for each spray chamber stack.

D. The Permittee shall provide a copy of the current certification for the opacity observer and observer's readings to the Illinois EPA at the time of the observations, if the Illinois EPA personnel are present.

b. The Permittee shall have emission tests conducted for the PM/PM_{10} emissions of the spray chambers of the affected continuous casting operations as specified below to verify

compliance with emission limits in Condition 7.6.6(c) [Sections 39.5(7)(d) and (p) of the Act]:

i. A. Emission testing shall be conducted within 30 months of the effective date of this permit condition. This testing shall be conducted for one caster as selected by the Illinois EPA.

B. Upon written request from the Illinois EPA, additional emission testing shall be conducted within 90 operating days from the date of the request or by the date agreed upon by the Illinois EPA, whichever is later.

ii. The following USEPA test methods shall be used for this testing, unless another USEPA method is approved by the Illinois EPA:

A.	Location of Sample Points	Method 1
B.	Gas Flow and Velocity	Method 2
C.	Flue Gas Weight	Method 3
D.	Moisture	Method 4
E.	PM/PM_{10}	Methods 5, 201 or 201A

iii. Observations for visible emissions and opacity shall be conducted during all emission tests in accordance with USEPA Methods 22 and 9, respectively, and the results of these observations included in the reports for emission testing.

iv. For this emission testing, test notifications and reporting shall be done by the Permittee in accordance with Conditions 8.6.2 and 8.6.3 of this permit.

7.6.8 Monitoring Requirements

The Permittee shall perform monthly inspections of the continuous casting operations. These inspections shall include [Sections 39.5(7)(a) and (d) of the Act]:

a. Inspection of the mechanical shrouds on the continuous casting operations to ensure their physical presence and integrity.

b. Observations for visible emissions from stacks conducted in accordance with Method 22. If visible emissions are observed, opacity observations by Method 9 shall be conducted within one week.

7.6.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected continuous casting operations, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. Amount of steel cast (ton/mo and ton/yr).

b. The Permittee shall maintain records of the inspections required by Condition 7.6.8.

c. The Permittee shall keep the following records related to the emissions of the affected continuous casting operations:

i. A file containing the emission factors used by the Permittee to determine emissions of different pollutants from the various affected operations, with supporting documentation. These records shall be reviewed and updated by the Permittee as necessary to assure that the emission factors that it uses to determine emissions of the affected operations do not understate actual emissions. These records shall be prepared and copies sent to the Illinois EPA in accordance with Condition 5.9.6(c).

ii. Records for any periods of operation of an affected operations that are not otherwise addressed in the required records during which the established emission factor in Condition 7.6.9(c)(i) would understate actual emissions, with description of the period of operation and an estimate of the additional emissions during such period that would not be accounted for by the established factor, with supporting explanation and calculations.

iii. Records for the annual emissions of the various affected operations for comparison to the limits in Conditions 7.6.6(a) through (e), with supporting calculations.

iv. Records for combined annual emissions of the affected continuous casting operations, based on the summation of the above data, for comparison to the limits in Condition 7.6.6(f).

d. The Permittee shall keep records for all opacity readings for the affected continuous casting operations conducted in accordance with Condition 7.6.7.

7.6.10 Reporting Requirements

a. i. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the Illinois EPA, Air Compliance Section, within 30 days of deviations by

the affected continuous casting operations from applicable requirements, as follows:

A. Requirements in Condition 7.6.3(b) and (c).

B. Requirements in Condition 7.6.6.

ii. All such deviations shall be summarized and reported as part of the semiannual monitoring report required by Condition 8.6.1.

b. The Permittee shall notify the Illinois EPA, Air Compliance Section, of all other deviations as part of the semiannual monitoring reports required by Condition 8.6.1.

c. All deviation reports described in Condition 7.6.10 above shall contain the following:

i. Date, time and duration of the deviation;

ii. Description of the deviation;

iii. Probable cause of the deviation; and

iv. Any corrective action or preventive measures taken.

7.6.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected continuous casting operations.

7.6.12 Compliance Procedures

For affected continuous casting, compliance with the applicable standards of Conditions 7.6.3(b) and (c) and with the limitations of Condition 7.6.6 is addressed by the work practices, testing, monitoring, recordkeeping and reporting requirements in Section 7.6 of this permit.

7.6.13 State-Only Conditions

State-only conditions are not being established.

7.7 Hot Strip Mill Reheat Furnaces

7.7.1 Description

Steel slabs are heated in the slab reheat furnaces, so they can be formed further in the facility's hot strip mill. Some of the slabs are shipped to the facility from outside suppliers.

The following fuels or combination of these fuels are fired by all the four furnaces: natural gas and coke oven gas (COG). In the past, the reheat furnaces also fired oil, but they no longer have that capability.

Note: This narrative description is for informational purposes only and is not enforceable.

7.7.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Reheat Furnaces	Slab Reheat Furnaces #1, #2 & #3 equipped with low-NO_x burners Nominal firing rate: 322 mmBtu/hr each	Pre-1972	None
	Slab Reheat Furnace #4 equipped with low-NO_x burners Nominal firing rate: 495 mmBtu/hr	Pre-1977	None

7.7.3 Applicable Provisions and Regulations

a. The "affected slab reheat furnaces" for the purpose of these unit-specific conditions, are the emission/production units as described in Conditions 7.7.1 and 7.7.2 above.

b. The affected slab reheat furnaces are subject to 35 IAC 212.458(b)(10) and (c), which provide that no person shall cause or allow emissions of PM_{10}, other than that of fugitive particulate matter, into the atmosphere to exceed 38.7 ng/J (0.09 lbs/mmBtu) of heat input from the slab furnaces at steel plants in the vicinity of Granite City during any one hour period, provided however that this limit shall not apply if there are no visible emissions, except if a stack test is performed, the absence of visible emissions is not a defense to a finding of violation.

c. The affected slab reheat furnace #4 is subject to 35 IAC 212.321(a), which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, which either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 IAC 212.321(c) (See also Attachment 2) [35 IAC 212.321(a)].

d. The affected slab reheat furnaces #1, #2 and #3 are subject to 35 IAC 212.322(a), which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar existing process emission units at a source or premises, exceeds the allowable emission rates specified in 35 IAC 212.322(c) (See also Attachment 2) [35 IAC 212.322(a)].

e. Pursuant to 35 IAC 214.301, the affected slab reheat furnaces shall comply with the following: no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to exceed 2000 ppm.

f. Pursuant to 35 IAC 212.123(a), the affected slab reheat furnaces shall comply with the following: no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, except as allowed by 35 IAC 212.123(b) and 212.124.

g. Pursuant to 35 IAC 212.458(b)(7) and (c), the affected slab reheat furnaces shall comply with the following:

No person shall cause or allow emissions of PM_{10}, other than that of fugitive particulate matter, into the atmosphere to exceed the following limits during any one hour period:

22.9 mg/scm (0.01 gr/scf) from any process emissions unit provided however that this limit shall not apply if there are no visible emissions, except if a stack test is performed, the absence of visible emissions is not a defense to a finding of violation [35 IAC 212.458(b)(7) and (c)].

7.7.4 Non-Applicability of Regulations of Concern

a. The emission limitations of 35 IAC 212.324 are not applicable to the affected slab reheat furnaces, because

they are subject to a specific emissions standard or limitation contained in 35 IAC Part 212 Subpart R, pursuant to 35 IAC 212.324 (a)(3).

b. The affected slab reheat furnaces are not subject to 40 CFR Part 63 Subpart FFFFF, Integrated Iron and Steel Manufacturing, because reheat furnaces are not covered by this NESHAP [see 40 CFR 63.7782(c)].

c. This permit is issued based on the Permittee not being subject to the work practice and recordkeeping requirements of 35 IAC 212.324(f) because the affected slab reheat furnaces do not use air pollution control equipment for particulate matter.

7.7.5 Startup Provisions

a. Pursuant to 35 IAC 201.149 and Part 201 Subpart I, subject to the following terms and conditions for affected slab reheat furnaces, the Permittee is authorized to violate the applicable opacity standards in 35 IAC 212.123(a) of Condition 7.7.3(f) during startup.

Note: This authorization is provided because the Permittee applied for such authorization in its CAAPP application, generally describing the efforts that will be used "…to minimize startup emissions, duration of individual starts, and frequency of startups".

i. This authorization does not relieve the Permittee from the continuing obligation to demonstrate that all reasonable efforts are made to minimize startup emissions, duration of individual startups and frequency of startups.

ii. The Permittee shall conduct startup of the affected slab reheat furnaces in accordance with written procedures prepared by the Permittee and maintained at the source (see Condition 7.7.10(d)(i)) for the affected slab reheat furnaces, that are specifically developed to minimize emissions from startups and that include, at a minimum:

A. A review of the operational condition of the affected reheat furnaces prior to initiating startup of the furnaces;

B. Initiation of startups to provide adequate time to implement the established startup procedures;

C. Sequential startup of the burners in the different zones of each furnace; and

D. Temperature levels achieved during startup.

iii. The Permittee shall fulfill applicable recordkeeping of Condition 7.7.10(d).

iv. The Permittee shall fulfill applicable reporting of Condition 5.10.5-1.

b. As provided by 35 IAC 201.265, an authorization in a permit for excess emissions during startup does not shield a Permittee from enforcement for any violation of applicable emission standard(s) that occurs during startup and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

7.7.6 Control Requirements and Work Practices

a. Pursuant to Permit 06070022, the affected slab reheat furnaces shall be equipped, operated, and maintained with low NO_x burners. The low NO_x burners shall be operated and maintained in conformance with good air pollution control practices. These low-NO_x burners shall be operated in the following zones of the affected slab reheat furnace [T1R]:

i. Slab reheat furnaces #1 through #3: heat and intermediate zones; and

ii. Slab reheat furnace #4: heat zone.

b. The affected slab reheat furnaces are allowed to burn natural gas and coke oven gas only as a fuel [Section 39.5(7)(a)of the Act].

7.7.7 Operating and Emission Limits

The following operating and emission limits are established for the affected slab reheat furnaces [06070022, T1]:

a. Operation of the affected slab reheat furnaces shall not exceed the following limits:

Emission Unit	Total Gas Usage (mmBtu/year)	COG Usage (mmBtu/year)
Slab Reheat Furnace #3	1,654,304	1,187,790
Slab Reheat Furnace #4	2,206,238	1,544,367
Total (Furnaces 1-4)	7,169,150	2,421,388

b. Emissions of NO_x from the affected slab reheat furnaces shall not exceed the following limits:

Furnace	Limit (Lbs/mmBtu)
Slab Reheat Furnace #1	0.150
Slab Reheat Furnace #2	0.150
Slab Reheat Furnace #3	0.264
Slab Reheat Furnace #4	0.283

c. Emissions of NO_x from the affected slab reheat furnaces (combined) shall not exceed 73 tons/month and 724.09 tons/year.

d. Compliance with above annual limits shall be determined from a running total of 12 months of data.

7.7.8 Testing Requirements

a. Pursuant to Section 39.5(7)(d) and (p) of the Act, the Permittee shall conduct a performance test on each affected slab reheat furnace within 18 months of the effective date of this permit condition and furnish the Illinois EPA a written report of the results of such test(s).

i. These tests shall be conducted while the reheat furnace is firing COG at the maximum level in the normal mix of fuel for the furnace.

ii. The following methods and procedures shall be used for testing of emissions, unless another method is approved by the Illinois EPA: Refer to 40 CFR 60, Appendix A, for USEPA test methods.

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
NO_x	USEPA Method 7E or 19

b. The Permittee shall conduct tests for PM/PM_{10} and NO_x emissions of the affected reheat furnaces upon written request from the Illinois EPA, for furnace(s) and fuel mix, as specified in the request. This testing shall be completed within 90 days of the request of by such later date agreed to by the Illinois EPA. For NO_x, this testing shall be conducted in accordance with Condition 7.7.8(a)(i). For PM/PM_{10}, testing shall be conducted using USEPA Test Methods as specified in 35 IAC 212.108(a).

c. For all required emission tests, the Permittee shall conduct opacity observations in accordance with USEPA Method 9 during each run and report the results in the test report. The duration of observations for each run shall be 30-minutes unless visible emissions are not observed during

the first 12 minutes. Notwithstanding the above, if weather conditions during the period of testing are not suitable for conducting opacity observations, observations may be conducted within 48 hours of the time of testing, in which case, the duration of observations shall be 3 hours unless visible emissions are not observed during the first 36 minutes of observations.

d. With the reports for all emission testing, the Permittee shall also provide the sulfur content of the COG being combusted during the period of testing, as measured by the monitoring system for COG, and sulfur content of the mixed fuel combusted during the period of testing, with supporting calculations.

e. For this emission testing, test notifications and reporting shall be done by the Permittee in accordance with Conditions 8.6.2 and 8.6.3 of this permit.

7.7.9 Monitoring Requirements

The affected slab reheat furnaces are subject to the following monitoring requirements, pursuant to Sections 39.5(7)(a) and (d) of the Act:

a. The Permittee shall conduct opacity observations for each affected slab reheat furnace on a semi-annual basis, in accordance with USEPA Method 9, for a minimum of 30 minutes per furnace, unless no visible emissions are observed during the first 12 minutes of observations. The results of these observations shall be reported to the Illinois EPA within 45 days after each observation is conducted.

b. Unless annual performance tests or continuous monitoring for emissions of NO_x is being conducted for an affected slab reheat furnace pursuant to 35 IAC Part 217, Subpart D, the Permittee shall perform combustion evaluations/inspections of the burners on each affected slab reheat furnace on a regular basis, including inspections of the various components of the burner for their condition and proper functioning, and diagnostic measures of the NO_x concentration in the exhaust of the furnace before and after performance evaluation. These inspections/evaluations shall be conducted on a semi-annual basis if accommodated by the schedule for maintenance outages on an affected furnace, and otherwise on at least an annual basis.

7.7.10 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected slab reheat furnaces, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. i. Records for heat input:

A. For COG (mmBtu/month and mmBtu/year) for all affected slab reheat furnaces (combined) and for furnaces #3 and #4 (individually).

B. For natural gas (mmBtu/month and mmBtu/year) for all affected slab reheat furnaces (combined) and for furnaces #3 and #4 (individually).

ii. Records for the amount for each type of fuel used (mmscf/mo).

b. A log or other records that will serve to identify the fuel or fuels being fired during each hour in each affected reheat furnace:

i. For furnaces # 1, 2 and 3, whether natural gas or COG is being fired.

ii. For furnace #4, the setting for the mix of natural gas and COG that is being fired.

c. Records for all emission tests and opacity observations for the affected slab reheat furnaces.

d. Records for Startups of Affected Slab reheat furnaces, pursuant to Section 39.5(7)(b) of the Act

i. The Permittee shall maintain startup procedures for each affected slab reheat furnace, as required by Condition 7.7.5(a)(ii).

ii. The Permittee shall maintain the following records for each startup of an affected furnace:

A. Date, time and duration of the startup.

B. A description of the startup and reason(s) for the startup.

C. Whether a violation of an applicable standard may have occurred during startup accompanied by the information in Condition 7.7.9(d)(iv) if a violation may have or did occur.

D. Whether the established startup procedures, maintained above, were followed accompanied by the information in Condition 7.7.9(d)(iii) if there were departure(s) from those procedures.

iii. If the established startup procedures were not followed during a startup, the Permittee shall maintain the following records:

A. A description of the departure(s) from the established procedures.

B. The reason(s) for the departure(s) from the established procedures.

C. An explanation of the consequences of the departure(s) for emissions, such as whether the departure(s) prolonged the startup or resulted in additional emissions, and if so,

1. The actions taken to minimize emissions and the duration of the startup; and

2. An explanation whether similar incidents might be prevented in the future and if so, the corrective actions taken or to be taken to prevent similar incidents.

iv. If a violation did or may have occurred during a startup, the Permittee shall maintain the following records:

A. Identification of the applicable standard(s) that were or may have been violated.

B. An explanation of the nature of such violation(s), including the magnitude of such excess emissions.

C. A description of the actions taken to minimize the magnitude of emissions and duration of the startup.

D. An explanation whether similar incidents could be prevented or ameliorated in the future and if so, a description of the actions taken or to be taken to prevent similar incidents in the future.

e. A maintenance and repair log for each affected slab reheat furnace, listing each activity performed with date.

f. The following records related to the emissions of PM/PM_{10}, SO_2, and NO_x from the affected slab reheat furnaces:

i. A file containing the emission factors used by the Permittee to determine emissions of pollutants other than SO_2 from the affected slab reheat furnaces, with supporting documentation. These records shall be reviewed and updated by the Permittee as necessary to assure that the emission factors that it uses to determine emissions of the affected furnace do not understate actual emissions. These records shall be

prepared and copies sent to the Illinois EPA in accordance with Condition 5.9.6(c).

ii. If different emission factors are used for furnaces #1 and #2, records for the individual usage of fuels by these furnaces (scf/month and scf/year).

iii. Records of emissions of PM/PM_{10}, SO_2, NO_x from the affected slab reheat furnaces (tons/month and tons/year), with supporting calculations.

7.7.11 Reporting Requirements

a. i. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the Illinois EPA, Air Compliance Section, within 30 days of deviations by the affected slab reheat furnaces from applicable requirements, as follows:

A. Requirements in Condition 7.7.3(b) through (f).

B. Requirements in Condition 7.7.6.

C. Requirements in Condition 7.7.7.

ii. All such deviations shall be summarized and reported as part of the semiannual monitoring report required by Condition 8.6.1.

b. The Permittee shall notify the Illinois EPA, Air Compliance Section, of all other deviations as part of the semiannual monitoring reports required by Condition 8.6.1.

c. All deviation reports described in Condition 7.7.11 above shall contain the following:

i. Date, time and duration of the deviation;

ii. Description of the deviation;

iii. Probable cause of the deviation; and

v. Any corrective action or preventive measures taken.

d. Reporting on the State startup authorization shall be performed in accordance with Condition 5.10.5-1.

7.7.12 Operational Flexibility/Anticipated Operating Scenarios

No operational flexibility has been established for the affected slab reheat furnaces.

7.7.13 Compliance Procedures

For affected slab reheat furnaces, compliance with the applicable standards of Condition 7.7.3 and with the operating and emission limits of Condition 7.7.7 is addressed by the work practices, testing, monitoring, recordkeeping and reporting requirements in Section 7.7 of this permit.

7.7.14 State-Only Conditions

Pursuant to 35 IAC 217.150, 217.152, and 217.160, by the applicable compliance date for 35 IAC Part 217 Subparts D and I, the Permittee shall comply with applicable requirements of these rules for the affected slab reheat furnaces, including:

a. Certifying to the Illinois EPA that the affected slab reheat furnaces will be in compliance with the applicable emission limitation(s) of 35 IAC 217.244(a) by the applicable compliance date.

b. Operation of each affected slab reheat furnaces in a manner consistent with good air pollution control practices to minimize NO_x emissions,

c. Compliance with the applicable NO_x emission limitation(s) in accordance with 35 IAC 217.154 or 217.157.

d. Compliance with the applicable monitoring, recordkeeping and reporting requirements in accordance with 35 IAC 217.157(b) and 217.156.

7.8 Finishing Operations

7.8.1 Description

Pickling Line:

Coils are processed in this unit to clean the steel and prepare it for other treatments such as cold rolling or galvanizing. At the start of the pickling line, the coils are unwound and the leading edge of each coil is trimmed off square. The leading edge of each coil is then spot (resistance) welded to the trailing edge of the previous coil. By joining the coils in this manner the pickling line runs a continuous ribbon of steel and does not need to be taken out of production to reload. After the steel coils are joined the steel is passed through an acid bath. This acid bath consists of four dip tanks arranged in series and uses a solution of hydrochloric acid and water to clean the surfaces of the steel sheet. A scrubbing system with mist eliminator is used to control hydrogen chloride emissions from this process. When the steel comes out of the fourth acid dip tank it is passed through a cold rinse tank in which cool water is used to rinse the acid off of the steel. The next step is to pass the steel through a hot rinse tank. In this tank hot water is used to rinse any remaining acid away from the steel and to raise the temperature of the steel to speed the drying process. The steel is then passed through a hot air dryer to complete the drying process. The steel that is to be shipped is coated with oil immediately prior to recoiling to inhibit corrosion. In the final step of the pickling process, the steel is recoiled.

Galvanizing Line Steel Preparation:

Steel coils that are to be galvanized in this unit are first joined end to end by spot (resistance) welding the leading edge of one coil to the trailing edge of another coil. The steel is then passed through a rinse station where it is rinsed with either a weak alkaline solution or a weak acid solution. The purpose of this rinse is to clean the steel and break down any oils that may be on the surfaces. The emissions from this unit are exhausted to a packed column wet scrubber. After cleaning and rinsing the steel is dried by a steam dryer.

Galvanizing Line Finishing Processes:

After the steel is coated with zinc, it is cooled and then dipped into a "Chem-treat" bath. This non-organic chemical puts a layer of rust-preventative on the steel. The steel is coated with oil to protect the surfaces, recoiled, and sprayed with edge sealer (oil) to protect the edges of the steel. The oil applied to the steel is a light petroleum based oil used to inhibit corrosion. Edge sealers are oils used to protect the edges of the steel and inhibit corrosion.

Note: This narrative description is for informational purposes only and is not enforceable.

7.8.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Finishing Operations	HCL Pickling Line	Pre-1973	Two Fume Scrubbers
	Galvanizing Line #7A; the line is comprised of the following significant components: • Cleaner section • Natural Gas furnace • Galvanizing pot • Miscellaneous heaters	Pre-1973	Fume Scrubber
	Galvanizing Line #8; the line is comprised of the following significant components: • Cleaner Section (with fume scrubber) • Natural gas fired Furnace (with NO_x catalytic converter) • 2 Galvanizing Pots • Space Heaters • Miscellaneous Heaters • Melting Kettle Building and Storage Areas Heaters	1995	Fume Scrubber; NO_x catalytic converter
	Coating Operations	Pre-1973	None

7.8.3 Applicable Provisions and Regulations

a. The "affected finishing operations" for the purpose of these unit-specific conditions, are the emission units described in Conditions 7.8.1 and 7.8.2.

b. Pursuant to 35 IAC 212.458(b)(7) and (c), the affected finishing operations shall comply with the following:

No person shall cause or allow emissions of PM_{10}, other than that of fugitive particulate matter, into the atmosphere to exceed the following limits during any one hour period:

22.9 mg/scm (0.01 gr/scf) from any process emissions unit provided however that this limit shall not apply if there are no visible emissions, except if a stack test is performed. The absence of visible emissions is not a defense to a finding of violation [35 IAC 212.458(b)(7) and (c)]

c. The following process emission units in the affected finishing operation constructed or modified prior to April 14, 1972 are subject to IAC 212.322(a): cleaner section and galvanizing pot of Galvanizing Line #7A and coating operations. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission units at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (see also Attachment 2) [35 IAC 212.322(a)].

d. The following process emission units in the affected finishing operation constructed or modified on or after April 14, 1972 are subject to IAC 212.321(a): cleaner section, two galvanizing pots and the melting kettle of Galvanizing Line #8. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced on or after April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission units at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 2) [35 IAC 212.321(a)].

e. Coating operations performed as part of the affected finishing operations are subject to 35 IAC 219.204, with which the Permittee must comply by application of compliant coating as established by 35 IAC 219.204(d) for coil coating:

i. No owner or operator of an affected coil coating operation shall apply at any time any coating in which the VOM content exceeds the following emission limitations. The following emission limitation is expressed in units of VOM per volume of coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied at each coating applicator:

kg/l	lb/gal
0.20	1.7

ii. Compounds which are specifically exempted from the definition of VOM should be treated as water for the purpose of calculating the "less water" part of the coating composites.

f. The HCL pickling line operates as a part of the affected finishing operations and is subject to 40 CFR Part 63 Subpart CCC "National Emission Standards for Hazardous Air Pollutants for Steel Pickling—HCl Process Facilities and Hydrochloric Acid Regeneration Plants". Specific requirements of Subpart CCC are set forth later in this subsection.

g. Pursuant to 35 IAC 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, except as allowed by 35 IAC 212.123(b) and 212.124.

7.8.4 Non-Applicability of Regulations of Concern

a. The emission limitations of 35 IAC 212.324 are not applicable to any emission unit subject to a specific emissions standard or limitation contained in 35 IAC Part 212 Subpart R, pursuant to 35 IAC 212.324 (a)(3).

b. This permit is issued based on the coating operations operated as a part of the affected finishing operations not being subject to 40 CFR 63 Subpart SSSS "National Emission Standards for Hazardous Air Pollutants: Surface Coating of Metal Coil" pursuant to the definition of coating used by Subpart SSSS (Decorative, protective, or functional materials that consist only of solvents, protective oils, acids, bases, or any combination of these substances are not considered coatings for the purposes of Subpart SSSS).

c. This permit is issued based on the coating operations operated as a part of the affected finishing operations not being subject to 40 CFR 63 Subpart MMMM "National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products" pursuant to definition of coating used by Subpart MMMM (Decorative, protective, or functional materials that consist only of solvents, protective oils, acids, bases, or any combination of these substances are not considered coatings for the purposes of Subpart MMMM).

d. The pickling operations are not subject to 35 IAC 212.321 or 212.322 pursuant to 35 IAC 266.190.

7.8.5-1 NESHAP Emission Standards

a. The affected pickling line is subject to 40 CFR 63.1157(a), which provides that no owner or operator of an existing affected continuous or batch pickling line at a steel pickling facility shall cause or allow to be discharged into the atmosphere from such line:

i. Any gases that contain HCl in a concentration in excess of 18 parts per million by volume (ppmv); or

ii. HCl at a mass emission rate that corresponds to a collection efficiency of less than 97 percent.

b. This standard shall apply at all times, including startup, shutdown and malfunction/breakdown, as 40 CFR 63.6(f) has been vacated.

7.8.5-2 NESHAP Work Practices (Galvanizing Lines)

Affected Galvanizing Furnaces #7A and #8 as well as miscellaneous heaters on Galvanizing Line #8 are subject to the NESHAP, 40 CFR Part 63, Subpart DDDDD. Pursuant to 40 CFR 63.7499, these affected units are in the Gas 1 Subcategory for purposes of this NESHAP, as they only burn natural gas.

a. Beginning on of the compliance date of this NESHAP, the Permittee must conduct a tune-up on each affected unit as follows:

i. For Galvanizing Furnaces #7A and #8, the Permittee must conduct a tune-up of each furnace annually [40 CFR 63.7540(a)(10)].

ii. For miscellaneous heaters on galvanizing line #8, the Permittee must conduct a biennial tune-up of each heater [40 CFR 63.7540(a)(11)].

iii. If a unit is not operating on the required date for a tune-up, the tune-up must be conducted within one week of startup [40 CFR 63.7540(a)(12)].

b. Pursuant to 40 CFR 63.7540(a)(10), each required tune-up shall consist of the following:

i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the burner inspection may be delayed until the next scheduled unit shutdown, but each burner must be inspected at least once every 36 months) [40 CFR 63.7640(a)(10)(i)];

ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available [40 CFR 63.7640(a)(10)(ii)];

iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly [40 CFR 63.7640(a)(10)(iii)];

iv. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available [40 CFR 63.7640(a)(10)(iv)];

v. Measure the concentrations in the effluent stream of CO in parts per million, by volume (ppmv), and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made) [40 CFR 63.7640(a)(10)(v)].

c. Pursuant to 40 CFR 63.7640(a)(10)(vi), the Permittee shall maintain on-site and submit, if requested by the Illinois EPA, an annual report containing the following for the required tune-ups:

i. The concentrations of CO in the effluent stream in ppmv, and oxygen in volume percent, measured before and after the adjustments of the furnace;

ii. A description of any corrective actions taken as a part of the combustion adjustment; and

iii. The type and amount of fuel used over the 12 months prior to the annual adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

7.8.6 Control Requirements and Work Practices

a. Hydrochloric acid storage vessels. The owner or operator of an affected vessel shall provide and operate, except during loading and unloading of acid, a closed-vent system for each vessel. Loading and unloading shall be conducted either through enclosed lines or each point where the acid is exposed to the atmosphere shall be equipped with a local fume capture system, ventilated through an air pollution control device [40 CFR 63.1159(b)].

Note: HCL storage tanks associated with the affected pickling line are insignificant activities addressed in

Section 3.0 of this permit. Loading and unloading is currently conducted through enclosed lines.

b. Maintenance requirements [40 CFR 63.1160(b)]

i. The Permittee shall comply with the operation and maintenance requirements prescribed under 40 CFR 63.6(e) for the HCL pickling line.

ii. In addition to the requirements specified in 40 CFR 63.6(e), the Permittee shall operate in accordance with an operation and maintenance plan that it prepares for each emission control device. Such plan shall be consistent with good maintenance practices and, for a scrubber emission control device, shall at a minimum address the following:

A. Require monitoring and recording the pressure drop across the scrubber once per shift while the scrubber is operating in order to identify changes that may indicate a need for maintenance;

B. Require the manufacturer's recommended maintenance at the recommended intervals on fresh solvent pumps, re-circulating pumps, discharge pumps, and other liquid pumps, in addition to exhaust system and scrubber fans and motors associated with those pumps and fans;

C. Require cleaning of the scrubber internals and mist eliminators at intervals sufficient to prevent buildup of solids or other fouling;

D. Require an inspection of each scrubber at intervals of no less than 3 months with:

1. Cleaning or replacement of any plugged spray nozzles or other liquid delivery devices;

2. Repair or replacement of missing, misaligned, or damaged baffles, trays, or other internal components;

3. Repair or replacement of droplet eliminator elements as needed;

4. Repair or replacement of heat exchanger elements used to control the temperature of fluids entering or leaving the scrubber; and

5. Adjustment of damper settings for consistency with the required air flow.

E. If the scrubber is not equipped with a viewport or access hatch allowing visual inspection, alternate means of inspection approved by the Administrator may be used.

F. The owner or operator shall initiate procedures for corrective action within 1 working day of detection of an operating problem and complete all corrective actions as soon as practicable. Procedures to be initiated are the applicable actions that are specified in the maintenance plan. Failure to initiate or provide appropriate repair, replacement, or other corrective action is a violation of the maintenance requirement of 40 CFR 63, Subpart CCC.

G. The owner or operator shall maintain a record of each inspection, including each item identified in 40 CFR 63.1160(b)(2)(iv), that is signed by the responsible maintenance official and that shows the date of each inspection, the problem identified, a description of the repair, replacement, or other corrective action taken, and the date of the repair, replacement, or other corrective action taken.

7.8.7 Production and Emission Limits from Permit 95010005 [T1].

a. The operation of Galvanizing Line #8 shall not exceed the following [T1]:

i. The maximum firing rate of the furnace shall not exceed 54.6 million British thermal units (mmBtu) per hour.

ii. The maximum firing rate of each of the five space heaters shall not exceed 3.44 mmBtu/hour.

iii. The total combined maximum firing rate of the building and storage area heaters shall not exceed 9.84 mmBtu/hour.

iv. The total combined natural gas usage of the 11 miscellaneous heaters shall not exceed 21,895 ft^3/hour and 191.8 million ft^3/year.

v. The operation of the melting kettle shall not exceed 32,000 tons of product/month and 384,000 tons of product/year.

b. The emissions of Galvanizing Line #8 shall not exceed the following [T1]:

i. Furnace

A. The NO_x emissions of the furnace shall not exceed 2.07 lbs/hour and 9.04 tons/year.

B. Emissions of other pollutants from the furnace shall not exceed the following limits:

Carbon Monoxide:	8.37 tons/year
Particulate Matter:	0.72 tons/year
PM_{10}:	0.72 tons/year
VOM:	0.67 tons/year
SO_2:	0.14 tons/year

ii. Five Space Heaters (total)

A. The total combined NO_x emissions of the 5 space heaters shall not exceed 1.69 lbs/hour and 7.39 tons/year.

B. Total emissions of other pollutants from the 5 space heaters shall not exceed the following limits:

Carbon Monoxide:	1.48 tons/year
Particulate Matter:	0.22 tons/year
PM_{10}:	0.22 tons/year
VOM:	0.39 tons/year
SO_2:	0.04 tons/year

iii. Drying Oven and the Building and Storage Area Heaters (total)

A. The total combined NO_x emissions of the drying oven and the building and storage area heaters shall not exceed 0.97 lbs/hour and 4.29 tons/year.

B. Total emissions of other pollutants from the drying oven and the building and storage area heaters shall not exceed the following limits:

Carbon Monoxide:	0.85 tons/year
Particulate Matter:	0.13 tons/year
PM_{10}:	0.13 tons/year
VOM:	0.22 tons/year
SO_2:	0.03 tons/year

iv. Miscellaneous Heaters (total)

A. Total combined NO_x emissions of the 11 miscellaneous heaters shall not exceed 2.19 lbs/hour and 9.60 tons/year.

B. Total combined emissions of other pollutants from the 11 miscellaneous heaters shall not exceed the following limits:

Carbon Monoxide:	1.92 tons/year
Particulate Matter:	0.29 tons/year
PM_{10}:	0.29 tons/year
VOM:	0.51 tons/year
SO_2:	0.06 tons/year

v. Cleaner Section

Emissions of particulate matter from the cleaner section, which is controlled with a fume scrubber, shall not exceed 0.24 lbs/hour and 1.06 tons/year.

vi. Melting Kettle

Particulate matter emissions from the melting kettle shall not exceed 0.16 tons/month and 1.92 tons/year.

vii. Other emission units

Emissions of NO_x, CO, PM, VOM and SO_2 from the welder, two galvanizing pots and chemical treatment tank shall not exceed negligible rates of 0.1 lb/hour and 0.44 tons/year for each pollutant from each such emission unit.

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

7.8.8 Testing Requirements

a. For testing emissions of the HCl Pickling Line pursuant to 40 CFR 63, Subpart CCC:

i. The Permittee shall use the following test methods in Appendix A of 40 CFR Part 60 pursuant to 40 CFR 63.1161(d), unless an equivalent alternative measurement method is approved by the Administrator, to determine compliance under 40 CFR 63.1157(a):

A. Method 1, to determine the number and location of sampling points, with the exception that no traverse point shall be within one inch of the stack or duct wall;

B. Method 2, to determine gas velocity and volumetric flow rate;

C. Method 3, to determine the molecular weight of the stack gas;

D. Method 4, to determine the moisture content of the stack gas; and

E. Method 26A, "Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources-Isokinetic Method," to determine the HCl mass flows at the inlet and outlet of a control device or the concentration of HCl discharged to the atmosphere, and also to determine the concentration of Cl_2 discharged to the atmosphere from acid regeneration plants. If compliance with a collection efficiency standard is being demonstrated, inlet and outlet measurements shall be performed simultaneously. The minimum sampling time for each run shall be 60 minutes and the minimum sample volume 0.85 dry standard cubic meters (30 dry standard cubic feet). The concentrations of HCl and Cl_2 shall be calculated for each run as follows:

C_{HCl} (ppmv) = 0.659 C_{HCl} (mg/dscm),
and C_{Cl2} (ppmv) = 0.339 C_{Cl2} (mg/dscm),

where C(ppmv) is concentration in ppmv and C(mg/dscm) is concentration in milligrams per dry standard cubic meter as calculated by the procedure given in Method 26A.

ii. Pursuant to 40 CFR 63.1162(a)(1), the Permittee shall conduct performance tests a minimum of once every 2 years to measure the HCl mass flows at the control device inlet and outlet or the concentration of HCL exiting the control.

iii. If any performance test shows that the HCL emission limitation is being exceeded, then the owner or operator is in violation of the emission limit.

b. Upon written request from the Illinois EPA, emission tests shall be conducted by the Permittee for the furnace, melting kettle and cleaner section (all of galvanizing line #8) to verify compliance with emission limits in Condition 7.8.7, as follows [Section 39.5(7)(d) and (p) of the Act].

i. The following USEPA test methods shall be used, unless another USEPA method is approved by the Illinois EPA.

A.	Location of Sample Points	Method 1
B.	Gas Flow and Velocity	Method 2
C.	Flue Gas Weight	Method 3
D.	Moisture	Method 4
E.	PM/PM_{10} (furnace, kettle, and cleaner section)	Methods 5, 201 or 201A
vi.	NO_x (furnace)	Method 7E or 19

ii. Observations of opacity shall be conducted during these emission tests in accordance with Method 9 and the results of these observations included in the reports for emission testing.

c. Upon written request by the Illinois EPA, the Permittee shall conduct opacity observations from any finishing operation, as specified in the request, as follows [Sections 39.5(7)(d) and (p) of the Act]:

i. These observations shall be conducted within 45 calendar days of the requires or by the date agreed upon by the Illinois EPA, whichever is later.

ii. The readings shall be performed by a qualified observer in accordance with USEPA Method 9 while the affected finishing operation is operating.

d. For this testing, test notifications and reporting shall be done by the Permittee in accordance with Conditions 8.6.2 and 8.6.3 of this permit.

7.8.9 Monitoring Requirements

a. For the affected pickling line, the Permittee shall comply with the following requirements of 40 CFR 63.1160(b)(2) and 63.1162(a)(2) Section 39.5(7)(a):

i. The Permittee shall operate, and maintain systems for the measurement and recording of the scrubber makeup water flow rate and, if required, recirculation water flow rate. These flow rates shall be monitored continuously and recorded at least once per shift while the scrubber is operating.* If operation of the wet scrubber results in excursions of scrubber makeup water flow rate and recirculation water flow rate less than the minimum values established, the Permittee shall initiate corrective action within 1

working day as specified by the maintenance requirements in 40 CFR 63.1160(b)(2). Failure to initiate or provide appropriate repair, replacement, or other corrective action is a violation of the maintenance requirement of 40 CFR 63.1160(b)(2).

ii. The Permittee shall monitor and record the pressure drop across the scrubber once per shift* while the scrubber is operating in order to identify changes that may indicate a need for maintenance. The Permittee shall initiate procedures for corrective action within 1 working day of detection of an operating problem and complete all corrective actions as soon as practicable. Procedures to be initiated are the applicable actions that are specified in the maintenance plan. Failure to initiate or provide appropriate repair, replacement, or other corrective action is a violation of the maintenance requirement of 40 CFR 63.1160(b)(2).

* See also Condition 7.8.9(g)

iii. Corrective action as referenced in Condition 7.8.9(a)(i) and (ii) and as prescribed by "the Operation and Maintenance Plan" required by Condition 7.8.6(b)(ii), shall consist of the following:

A. Notify the pickle line shift manager or cold mill shift manager as soon as practicable but not later than the end of the shift of the operating problem detected.

B. The pickle line shift manager or cold mill shift manager shall notify the mechanical or electrical shift manager no later than the end of the shift.

C. Any of the above shift managers shall investigate the nature of the operating problem and implement corrective actions, such as manufacturer's recommended maintenance on:

1. Pumps;

2. Exhaust systems;

3. Fans and motors;

4. Clean scrubber internals and mist eliminators to remove buildup of solids or other fouling.

D. The pickle line or cold mill shift manager shall complete an upset conditions report upon completion of corrected action.

b. Pursuant 40 CFR 63.1162(a)(4), failure to record each of the operating parameters (scrubber makeup water flow rate and recirculated water flow rate) is a violation of the monitoring requirements of 40 CFR 63 Subpart CCC.

c. Pursuant to 40 CFR 63.1162(a)(5), each monitoring device shall be certified by the manufacturer to be accurate to within 5 percent and shall be calibrated in accordance with the manufacturer's instructions but not less frequently than once per year.

d. Pursuant to 40 CFR 63.1161(b), the Permittee may reestablish compliant operating parameter values as part of any performance test that is conducted subsequent to the initial test or tests.

e. Pursuant to 40 CFR 63.1160(b)(2)(ii) through (iv), the Permittee shall conduct the following maintenance requirements:

i. Cleaning of the scrubber internals and mist eliminators at intervals sufficient to prevent buildup of solids or other fouling;

ii. Inspect each scrubber at intervals of no less than 3 months with:

A. Cleaning or replacement of any plugged spray nozzles or other liquid delivery devices;

B. Repair or replacement of missing, misaligned, or damaged baffles, trays, or other internal components;

C. Repair or replacement of droplet eliminator elements as needed;

D. Repair or replacement of heat exchanger elements used to control the temperature of fluids entering or leaving the scrubber; and

E. Adjustment of damper settings for consistency with the required air flow.

f. The owner or operator of an affected hydrochloric acid* storage vessel shall inspect each vessel semiannually to determine that the closed-vent system and either the air pollution control device or the enclosed loading and unloading line, whichever is applicable, are installed and operating when required [40 CFR 63.1162(c)].

* See also Condition 7.8.9(g)

g. Notwithstanding the requirements of 40 CFR 63, Subpart CCC, the Permittee shall:

i. Record monitored operating data for each scrubber at least twice per shift and initiate corrective action for the scrubber if any recorded data indicates an operating problem with a scrubber;

ii. Inspect the affected HCL storage vessels on at least a quarterly basis to confirm compliance.

h. Testing for VOM content of coatings shall be performed as follows [35 IAC 219.105(a) and 219.211(a) and Section 39.5(7)(b) of the Act]:

i. Upon written request by the Illinois EPA, the VOM content of specific coatings used by the coating operations shall be determined according to USEPA Reference Method 24 of 40 CFR 60 Appendix A and the procedures of 35 IAC 219.105(a) and 219.211(a); or

ii. This testing may be performed by the supplier of a material provided that the supplier provides appropriate documentation for such testing to the Permittee and the Permittee's records directly reflect the application of such materials.

i. Pursuant to Sections 39.5(7)(a) and (d) of the Act, the Permittee shall measure or monitor the pressure differential and scrubbant flow rate on the fume scrubbers controlling the cleaner sections on Galvanizing Lines #7A and #8, as follows:

i. The pressure differential shall be determined in inches of water column.

ii. Scrubbant flow rate shall be determined in gallons per minute (gpm).

iii. Pressure differential and scrubbant flow rate shall be recorded at least once per shift if data is not automatically recorded.

j. Pursuant to Sections 39.5(7)(a) and (d) of the Act, the Permittee shall operate instrumentation for the #8 Galvanizing Furnace for the NO_x concentration (ppm) in the flue gas exhaust stream and the inlet temperature (°C or °F) of the associated NO_x catalytic converter, as follows:

i. NO_x concentration (ppm) and inlet temperature shall be recorded at least once per shift if hourly average data is not automatically recorded.

ii. The Permittee shall follow manufacturer's procedures for the operation and maintenance of the NO_x instrumentation.

7.8.10 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected finishing operations, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. Recordkeeping required for the pickling line by the NESHAP:

i. The "general records" required by the NESHAP, as required by 40 CFR 63.10(b)(2) and 63.1165.

ii. Records of the following, as required by 40 CFR 63.1165(b), which records shall be retained for 5 years from the date of each record:

A. Scrubber makeup water flow rate and recirculation water flow rate if a wet scrubber is used;

B. Calibration and manufacturer certification that monitoring devices are accurate to within 5 percent; and

C. Each maintenance inspection and repair, replacement, or other corrective action.

iii. The Permittee shall keep the written operation and maintenance plan on record after it is developed to be made available for inspection, upon request, by the Illinois EPA for the life of the affected source or until the source is no longer subject to the provisions of 40 CFR 63 Subpart CCC. In addition, if the operation and maintenance plan is revised, the Permittee shall keep the previous (i.e., superseded) versions of the plan on record to be made available for inspection by the Illinois EPA for a period of 5 years after each revision to the plan.

iv. If the Permittee operates under manufacturer's specifications or manufacturer's instructions, such manufacturer's documentation shall be kept at the source as part of the required records.

b. Recordkeeping requirements for galvanizing lines:

Pursuant to Sections 39.5(7)(a) and (f) of the Act, the Permittee shall keep the following records for the various emission units on the galvanizing lines:

i. The following records related to the tune-ups conducted on furnaces and process heaters on the lines pursuant to 40 CFR 63.7540(a)(10):

A. Records for each tune-up that include the following: Date and time tune-up was conducted and responsible person; Identification of the unit; Summary of inspections performed and required maintenance; Results of all calibrations performed; and CO concentrations in ppmv in the effluent stream and oxygen in volume percent, before and after the adjustments are made.

B. A copy of the manufacturers specifications for burners used for optimization of emissions and flame pattern during tune-ups.

ii. Records for emission tests, opacity observations, engineering calculations and other compliance determinations conducted for units to verify compliance with applicable standards, limitations and other requirements in Conditions 7.8.3, 7.8.6 and 7.8.7.

iii. Pursuant to 40 CFR 63.7555(h), if the Permittee uses an alternative fuel other than natural gas during a period of natural gas curtailment or supply interruption, the Permittee must keep records of the total hours per calendar year that alternative fuel is burned.

c. Recordkeeping for Galvanizing Line #8:

i. The following design and operating records for Galvanizing Line #8:

A. A file containing the rated heat input capacity of the furnace and each other fuel burning unit (mmBtu/hour), with supporting documentation.

B. Records of monthly and annual natural gas usage (mmscf/mo and mmscf/yr) for the furnace and other fuel burning units on the line.

ii. For the melting kettle, the following records:

A. Records of production (tons of product per month and year).

B. A file containing the emission factor used by the Permittee to calculate PM emissions from the kettle, with supporting documentation, which file shall be reviewed and updated if needed when new emission data become available

to assure that the factor does not understate actual PM emissions.

C. Records for actual PM emissions (lbs/month and tons/year), with supporting calculations.

iii. For the furnace and associated catalytic converter, the following records:

A. Engineering calculations for typical and maximum hourly NO_x emissions before and after control by catalytic converter (lbs/hour), with supporting documentation for the controlled emission rate from the furnace.

B. The normal range of operating parameters (inlet temperature and NO_x concentration in the exhaust stream) for the catalytic converter.

C. An operating log or other records for the catalytic converter that include information confirming proper operation on a daily basis and provide detailed information for any upset of the catalytic converter.

D. An inspection and maintenance log or other records for the catalytic converter that identify activities performed, with date, description and the responsible individual(s).

E. Usage or purchases of reagent for the catalytic converter (pounds/year).

F. Records for actual NO_x emissions of the furnace (tons/year), with supporting calculations.

G. A file containing the emission factors used by the Permittee to calculate emissions of PM/PM_{10}, CO, VOM and SO_2 from the furnace, with supporting documentation, and either engineering calculations for the maximum annual emissions of these pollutants (tons/year) or records of actual emissions of these pollutants (tons/year) to verify compliance with applicable limits.

iv. For the various emission units that combust fuel on the line, the following records:

A. A file containing engineering calculations for the maximum hourly emissions of NO_x (lbs/hour) from each unit or group of units, with supporting documentation.

B. A file containing the emission factors used by the Permittee to calculate emissions from these units, with supporting documentation, and either engineering calculations for the maximum annual emissions of NO_x and other pollutants (tons/year) from each unit or group of units or records of actual emissions(tons/year) to verify compliance with applicable limits.

v. For the cleaner section, the following records:

A. Engineering calculations for typical and maximum hourly PM emissions before and after control by the scrubber (lbs/hour), with supporting documentation for the controlled emission rate from the unit.

B. The normal range of operating parameters of the scrubber.

C. An operating log or other records for the scrubber that include information confirming proper operation on a daily basis and provide detailed information for any upset of the scrubber.

D. An inspection and maintenance log or other records for the scrubber that identify activities performed, with date, description and the responsible individual(s).

E. Records for actual PM emissions (tons/year), with supporting calculations.

vi. A. The records required by Conditions 7.8.10(c)(ii)(B), (c)(iii)(G) and (c)(iv)(B) shall be prepared and copies sent to the Illinois EPA in accordance with Condition 5.9.6(c).

B. Copies of the initial records required by Conditions 7.8.10(c)(iii)(A), (c)(iv)(A) and (c)(v)(A) shall be sent to the Illinois EPA within 45 days of the effective date of these conditions. Copies of revisions to these conditions shall be sent to the Illinois EPA in accordance with Condition 5.9.6(c)(ii).

d. Recordkeeping for the coating operations:

i. Records for coating usage (gal/mo and gal/yr, by coating or category of coating).

ii. Records of the VOM content of each coating or category of coating as applied (pounds/gallon, less exempt compounds), with supporting documentation.

iii. Records for testing or analysis conducted for the VOM content of coatings (pounds/gallon, less exempt compounds) that include identification of the tested coating(s), the results of the analysis, documentation for the analysis methodology, and identification of the person or party that performed the analysis.

7.8.11 Reporting Requirements

a. i. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the Illinois EPA, Air Compliance Section, within 30 days of deviations by the affected finishing operations from applicable requirements unless a NESHAP standard specifies a different time frame, as follows:

A. Requirements in Condition 7.8.3(b) through (e).

B. Requirements in Condition 7.8.5-1.

C. Requirements in Condition 7.8.6.

D. Requirements in Condition 7.8.7.

ii. All such deviations shall be summarized and reported as part of the semiannual monitoring report required by Condition 8.6.1.

iii. The Permittee shall notify the Illinois EPA of all other deviations as part of the semiannual monitoring reports required by Condition 8.6.1.

iv. All deviation reports required by Condition 7.8.11(a) above shall contain the following:

A. Date, time and duration of the deviation;

B. Description of the deviation;

C. Probable cause of the deviation; and

D. Any corrective action or preventive measures taken.

b. The Permittee shall comply with the reporting requirements of 40 CFR 63.1164, including the following:

i. Reporting results of performance tests. As required by 40 CFR 63.10(d)(2), the owner or operator of an affected source shall report the results of any

performance test as part of the notification of compliance status required in 40 CFR 63.1163.

ii. Progress reports. The owner or operator of an affected source who is required to submit progress reports under 40 CFR 63.6(i) shall submit such reports to the Administrator (or the State with an approved permit program) by the dates specified in the written extension of compliance.

iii. Periodic startup, shutdown, and malfunction reports. Pursuant to 40 CFR 63.6(e), the owner or operator of an affected source shall operate and maintain each affected emission source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the level required by the standard at all times, including during any period of startup, shutdown, or malfunction. Malfunctions must be corrected as soon as practicable after their occurrence.

A. Plan. As required by 40 CFR 63.6(e)(3), the owner or operator shall develop a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, or malfunction, and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the relevant standards.

B. Reports. As required by 40 CFR 63.10(d)(5)(i), if actions taken by an owner or operator during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the startup, shutdown, and malfunction plan, the owner or operator shall state such information in a semiannual report. The report, to be certified by the owner or operator or other responsible official, shall be submitted semiannually and delivered or postmarked by the 30th day following the end of each calendar half.

C. Immediate Reports. Any time an action taken by an owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures in the startup, shutdown, and malfunction plan, the owner or operator shall comply with all requirements of 40 CFR 63.10(d)(5)(ii).

c. Pursuant to 35 IAC 219.211(c)(3), for the affected coating operations, the Permittee shall notify the Illinois EPA in the following instances:

i. Any record showing violation of 35 IAC 219.204 shall be reported by sending a copy of such record to the Illinois EPA within 30 days following the occurrence of the violation.

ii. At least 30 calendar days before changing the method of compliance from 35 IAC 219.204 to 35 IAC 219.205 or 219.207, the Permittee shall comply with all requirements of 35 IAC 219.211(d)(1) or (e)(1), respectively. Upon changing the method of compliance from 35 IAC 219.204 to 35 IAC 219.205 or 219.207, the Permittee shall comply with all requirements of 35 IAC 219.204(d) or (e), respectively.

d. i. If the Permittee operates a unit using a fuel other than natural gas, to fire the affected unit during a period of natural gas curtailment or supply interruption, as defined in 40 CFR 63.7575, the Permittee must submit a notification of alternative fuel use within 48 hours of the declaration of each period of natural gas curtailment or supply interruption. The notification must include the information specified in 40 CFR 63.7545(f)(1) through (f)(5) [40 CFR 63.7545(f)].

ii. If the Permittee intends to use fuel other than natural gas and other than during a period of natural gas curtailment or supply interruption as addressed by 40 CFR 63.7545(f), the Permittee must provide 30 days prior notice of the date upon which the fuels will be switched [40 CFR 63.7545(h)].

7.8.12 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected finishing operations.

7.8.13 Compliance Procedures

For affected finishing operations, compliance with the applicable standards, limitations and requirements of Conditions 7.8.3, 7.8.5 and 7.8.7 is addressed by the work practices, testing, monitoring, recordkeeping and reporting requirements in Section 7.8 of this permit.

7.8.14 State-Only Conditions

Pursuant to 35 IAC 217.150, 217.152, and 217.160, by the applicable compliance date for 35 IAC Part 217 Subparts D and I, the Permittee shall comply with applicable requirements of these rules for the affected galvanizing furnaces, including:

a. Certifying to the Illinois EPA that each affected galvanizing furnaces will be in compliance with the applicable emission limitation(s) of 35 IAC 217.244(a) by the applicable compliance date.

b. Operation of each affected galvanizing furnaces in a manner consistent with good air pollution control practices to minimize NO_x emissions.

c. Compliance with the applicable NO_x emission limitation(s) in accordance with 35 IAC 217.154 or 217.157.

d. Compliance with the applicable monitoring, recordkeeping and reporting requirements in accordance with 35 IAC 217.157(b) and 217.156.

7.9 Wastewater Treatment Plant

7.9.1 Description

Primary Wastewater Treatment System:

The system is used to treat waste process water generated in both the iron and steelworks manufacturing areas in the facility. Emissions from this system are attributed to the blast furnace (BF) clarifiers, dust ponds, BF ditch, BF lagoon, steelworks ditch, steel works lagoon, and the wastewater treatment plant, itself. The ditches are used to transfer the BF and steelworks wastewater streams to the lagoons. The wastewater treatment plant is a simple system used to remove suspended solids and breakdown organic prior to discharge.

By-Products Wastewater Treatment System:

The system is used to treat waste process water generated in the coke oven by-product plant. Waste process water from the by-products plant is piped to the by-products wastewater treatment plant. The water treated in this system is primarily made up of process wastewater used to cool the processes and equipment used in the by-products plant. The treatment process carried out consists of the use of biological activity to breakdown the organic materials contained in the waste stream.

Note: This narrative description is for informational purposes only and is not enforceable.

7.9.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Wastewater Treatment	Equalization Tanks	N/R	None
	BFG Clarifiers		
	Aeration Basin Clarifiers		
	Lagoons		
	Sand Filters		

7.9.3 Applicable Provisions and Regulations

The "affected wastewater treatment system" for the purpose of these unit-specific conditions is the treatment systems described in Conditions 7.9.1 and 7.9.2.

7.9.4 Non-Applicability of Regulations of Concern

a. The affected wastewater treatment systems are not subject to the operating and control requirements of 40 CFR 61 Subpart FF in general and 40 CFR 61.344 or 40 CFR 61.343 in particular, as provided by 40 CFR 61.342(a). This determination is based on the amount of benzene waste

generated on site being less than 10 Mg/yr (11 ton/yr). If conditions at the facility change and the total annual benzene calculation increases to 10 Mg/yr or more, the facility will become subject to operating and control requirements of 40 CFR 61 Subpart FF and the Permittee must apply for a revision to this permit, which could affect applicable requirements for the affected wastewater treatment plant.

b. The affected wastewater treatment system is not subject to 40 CFR Part 63, Subpart QQ, National Emission Standards for Surface Impoundments. This determination is based on the applicability criteria of 40 CFR 63.940, which provides that 40 CFR 63 Subpart QQ applies to impoundments when an applicable Subpart of Parts 40 CFR 60, 61 or 63 references the use of Subpart QQ for air emission control. However, applicable Subpart FF does not reference to 40 CFR 63 Subpart QQ.

c. This permit is issued based on the affected wastewater treatment system not being subject to the applicable requirements of 35 IAC 219.301 because the affected plant does not emit photochemically reactive organic material as defined in 35 IAC 211.4690.

7.9.5 Control Requirements and Work Practices

Control requirements and work practices are not set for the affected wastewater treatment systems.

7.9.6 Production and Emission Limitations

The production and emission limits are not set for the affected wastewater treatment systems.

7.9.7 Testing Requirements

Testing requirements are not set for the affected wastewater treatment systems.

7.9.8 Monitoring Requirements

If operation(s) at the facility change, the Permittee shall evaluate whether the change affects the wastewater treatment systems such that it become subject to the requirements of 35 IAC 219.301 and must apply for a revision of this permit.

7.9.9 Recordkeeping Requirements

No recordkeeping requirements are established at this time.

7.9.10 Reporting Requirements

a. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the Illinois EPA, Air Compliance Section, within 30 days if the following occurs:

i. The affected wastewater treatment systems become subject to the control requirements of 40 CFR 61 Subpart FF;

ii. The affected wastewater treatment system become subject to 35 IAC 219.301.

b. The notifications described in Condition 7.9.10 above shall contain the following:

i. Date of applicability;

ii. Emission units(s)/operation involved; and

iii. Method by which compliance would be demonstrated.

7.9.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected wastewater treatment systems.

7.9.12 Compliance Procedures

Compliance procedures are not set for the affected wastewater treatment systems.

7.9.13 State-Only Conditions

State-only conditions are not established.

7.10 Boilers

7.10.1 Description

Boilers 11 and 12 are located in Boiler House 2 and are rated at 225 mmBtu/hour each. Each of these boilers are physically capable of combusting various combinations of natural gas, coke oven gas (COG) and blast furnace gas (BFG). The Permittee has a construction permit to install Flue Gas Recirculation on these boilers for control of NO_x emissions (Construction Permit 10080022).

The Permittee completed construction of a new boiler pursuant to Construction Permit 06070023. The new boiler (Power Boiler #1) is used for cogeneration, producing both electricity and process steam as it supplies high pressure steam which is sent to a steam turbine that generates electricity for use at the source. Low-pressure steam from this turbine is used for manufacturing operations at the source.

BFG is a primary fuel for this boiler. Natural gas would be used for the pilot flame and also for combustion control.

A cooling tower operates in conjunction with the new boiler and associated steam turbine.

Portable boilers not yet constructed.

Note: This narrative description is for informational purposes only and is not enforceable.

7.10.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Boilers	Boiler House 2 Boiler 11 & 12 - 225 mmBtu/Hr each	Pre-1973	Flue Gas Recirculation (planned)
	Power Boiler #1 (nominal capacity 505 mmBtu/hour)	2009	None
Portable Boilers	Portable Boilers #1 through #4 (planned)	Planned	Low NO_x burners and Flue Gas Recirculation (planned)
Cooling Tower	Cooling Tower associated with Power Boiler #1	2009	None

7.10.3 Applicable Provisions and Regulations

a. i. The "affected boilers" for the purpose of these unit-specific conditions, are Boiler #11 and #12 and Power

Boiler #1 as described in Conditions 7.10.1 and 7.10.2.

ii. The "affected cooling tower" for the purpose of these unit-specific conditions is the unit described in Conditions 7.10.1 and 7.10.2.

b. i. Affected Boilers #11 and #12 may be subject to 40 CFR Part 63, Subpart DDDDD, NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters. For these boilers, pursuant to 40 CFE 63.7540(a), unless an affected boiler is operating as a blast furnace gas fuel-fired boiler, as defined in 40 CFR 63.7575, or is otherwise not subject to this NESHAP, beginning on the compliance date of this NESHAP for existing sources, the Permittee shall comply with each applicable emission limit, operating limit, and work practice standard in Table 2 of this NESHAP according to the methods specified in Table 8 to this NESHAP and relevant provisions in 40 CFR 63.7540(a)(1) through (11), as applicable.

ii. In particular, if affected Boiler #11 or #12 is in the Gas 2 subcategory (other gaseous fuel) pursuant to 40 CFR 63.7499, the Permittee shall comply with the following emission limits beginning on the applicable compliance date of 40 CFR 63 Subpart DDDDD, pursuant to 40 CFR 63.7500(a)(1) and Table 2 of this NESHAP:

A. Particulate Matter (PM) emissions shall not exceed 0.043 lb per mmBtu of heat input or 0.026 lb per mmBtu of steam output (3-run average).

B. Hydrogen Chloride (HCl) emissions shall not exceed 0.0017 lb per mmBtu of heat input or 0.001 lb per mmBtu of steam output.

C. Mercury (Hg) emissions shall not exceed 1.3E-05 lb per mmBtu of heat input or 7.8E-06 lb per mmBtu of steam output.*

D. CO emissions shall not exceed 9 ppm by volume on a dry basis corrected to 3 % oxygen or 0.005 lb per mmBtu of steam output.

E. Dioxin/Furans (D/F) emissions shall not exceed 0.08 ng/dscm (TEQ) corrected to 7% oxygen or 3.9E-11 (TEQ) lb per mmBtu of steam output.*

* 1.3E-05 = 0.00013
7.8E-06 = 0.0000078
3.9E-11 = 0.000000000039

c. Affected Boilers #11 and #12 shall not exceed the PM_{10} limitation of 35 IAC 212.458(b)(9):

32.25 ng/J (0.075 lbs/mmBtu) of heat input from the burning of COG.

d. The affected Power Boiler #1 is subject to the NSPS for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60 Subpart Db. (See relevant recordkeeping requirements in Condition 7.10.9.)

e. For affected boilers #11 and #12, pursuant to 35 IAC 214.421, no person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any existing fuel combustion emission source at a steel mill located in the Chicago or St. Louis (Illinois) major metropolitan area burning any solid, liquid or gaseous fuel, or any combination thereof, to exceed the allowable emission rate determined by the following equation:

$$E = S_S H_S + S_d H_d + S_R H_R + S_G H_G$$

i. Symbols in the equation mean the following:

E = allowable sulfur dioxide emission rate;

S_S = solid fuel sulfur dioxide emission standard which is applicable;

S_d = distillate oil sulfur dioxide emission standard determined from the table in 35 IAC 214.421(d) and equal to 0.46 kg/MW-hr (0.03 lb/mmBtu);

S_R = residual oil sulfur dioxide emission standard which is applicable;

S_G = maximum by-product gas sulfur dioxide emissions which would result if the applicable by-product gas which was burned had been burned alone at any time during the 12 months preceding the latest operation, on or before March 28, 1983, of an emission source using any by-product gas;

H_S = actual heat input from solid fuel;

H_d = actual heat input from distillate fuel oil;

H_R = actual heat input from residual fuel oil;

H_G = actual heat input from by-product gases, such as those produced from a blast furnace.

ii. Metric or English units may be used in the equation as follows:

Parameter	Metric	English
E	kg/hr	lbs/hr
S_S, S_R, S_G	kg/MW-hr	lbs/mmBtu
S_d	0.46 kg/MW-hr	0.3 lbs/mmBtu
H_S, H_d, H_R, H_G	MW	mmBtu/hr

f. The affected boilers are subject to 35 IAC 216.121 which provides that no person shall cause or allow the emission of carbon monoxide into the atmosphere from a fuel combustion emission unit to exceed 200 ppm, corrected to 50 percent excess air [35 IAC 216.121].

g. The affected power boiler #1 is subject to 35 IAC 212.122(a), which provides that no person shall cause or allow the emission of smoke or other particulate matter into the atmosphere from any fuel combustion emission unit for which construction or modification commenced on or after April 14, 1972, with actual heat input greater than 73.2 MW (250 mmBtu/hr), having an opacity greater than 20 percent.

h. The affected boilers #11 and #12 are subject to 35 IAC 212.123(a), which provides that no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 IAC 212.122.

i. Startup Provisions (All affected Boilers)

Pursuant to 35 IAC 201.149 and Part 201, Subpart I, subject to the following terms and conditions for affected Boilers #11, #12 and Power Boiler #1, the Permittee is authorized to violate the applicable opacity and carbon monoxide standards in 35 IAC 212.122(a), 212.123(a) and 216.121 (Conditions 7.10.3(g),(h) and (f)) during startup.

Note: This authorization is provided because the Permittee applied for such authorization in its CAAPP application, generally describing the efforts that will be used "…to minimize startup emissions, duration of individual starts, and frequency of startups."

i. This authorization does not relieve the Permittee from the continuing obligation to demonstrate that all reasonable efforts are made to minimize startup emissions, duration of individual startups and frequency of startups.

ii. The Permittee shall conduct startup of the affected boilers in accordance with the manufacturer's written instructions or other written procedures prepared by

the Permittee and maintained at the source (see Condition 7.10.9(d)(i)) for the affected boilers, that are specifically developed to minimize emissions from startups and that include, at a minimum a review of the operational condition of the affected boilers prior to initiating startup of the boiler.

iii. The Permittee shall fulfill applicable recordkeeping requirements of Condition 7.10.9(d).

iv. The Permittee shall fulfill applicable notification and reporting requirements of Condition 5.10.5-1.

v. As provided by 35 IAC 201.265, an authorization in a permit for excess emissions during startup does not shield a Permittee from enforcement for any violation of applicable emission standard(s) that occurs during startup and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

j. Malfunction or Breakdown Provisions (All affected Boilers)

Pursuant to 35 IAC 201.149 and Part 201, Subpart I, subject to the following terms and conditions, the Permittee is authorized to continue to operate affected boilers #11, #12 and Power Boiler #1 in excess of the applicable opacity and carbon monoxide standards in 35 IAC 212.122(a), 212.123(a) and 216.121 (Conditions 7.10.3(g),(h) and (f)) in the event of a malfunction or breakdown.

Note: This authorization is provided because the Permittee has applied for such authorization in its CAAPP application, generally explaining why such continued operation would be required to prevent injury to persons or severe damage to equipment, and describing the measures that will be taken to minimize emissions from any malfunctions and breakdowns.

i. This authorization only allows such continued operation as necessary to prevent injury to persons or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee.

ii. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall as soon as practicable reduce boiler load, repair the affected boiler, remove the affected boiler from service or undertake other action so that excess emissions cease.

iii. The Permittee shall fulfill the applicable recordkeeping and reporting requirements of Condition

7.10.9(e) and Condition 5.10.5-2. For these purposes, time shall be measured from the start of a particular incident. The absence of excess emissions for a short period shall not be considered to end the incident if excess emissions resume.

iv. Following notification to the Illinois EPA (see Condition 5.10.5-2(a)(i)) of a malfunction or breakdown with excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident.

v. This authorization does not relieve the Permittee from the continuing obligation to minimize excess emissions during malfunction or breakdown. As provided by 35 IAC 201.265, an authorization in a permit for continued operation with excess emissions during malfunction and breakdown does not shield the Permittee from enforcement for any such violation and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

7.10.4 Non-Applicability of Regulations of Concern

a. The emission limitations of 35 IAC 212.324 are not applicable to any emission unit subject to a specific emissions standard or limitation contained in 35 IAC Part 212 Subpart R, pursuant to 35 IAC 212.324 (a)(3).

b. Affected Boilers #11 and #12 are not subject to 35 IAC 217.141 because the heat input capacity of each of these boilers is below the applicability threshold of this rule (250 mmBtu/hr).

c. Power Boiler #1

i. Affected power boiler #1 is not subject to the NSPS for Electric Utility Steam Generating Units (40 CFR 60, Subpart Da) because it is not an electric utility steam generating unit as the term is defined in 40 CFR 60.41Da.

ii. Affected power boiler #1 is not subject to 40 CFR 60, Subpart D because it is subject to the NSPS in 40 CFR 60 Subpart Db as it meets the applicability requirements under 40 CFR 60.40b(a) [40 CFR 60.40b(j)].

iii. Affected Power Boiler #1 is not subject to the SO_2 standards of 40 CFR 60, Subpart Db because it meets the exemption provided at 40 CFR 60.42b(k)(2) [See also Condition 7.10.5(b)].

iv. Affected Power Boiler #1 is not subject to the NO_x standards of 40 CFR 60, Subpart Db pursuant to 40 CFR 60.44b(c), because it has an annual capacity factor for natural gas of 10 percent or less and is subject to a federally enforceable requirement that limits operation to an annual capacity factor of 10 percent or less for natural gas [See Condition 7.10.6(a)(iii)].

v. Affected Power Boiler #1 is not subject to particulate matter standards under 40 CFR 60, Subpart Db because it does not fire solid or liquid fuels.

d. Affected Power Boiler #1 is not subject to 35 IAC 217.121 because it is not "fossil fuel-fired" as defined by 35 IAC 211.2425, i.e., a unit for which fossil fuels provide more than 50 percent of the annual heat input to the unit.

e. Pursuant to 40 CFR 63.7491(k), Power Boiler #1 is not subject to 40 CFR Part 63 Subpart DDDDD because this boiler is a blast furnace gas fuel-fired boiler as defined in 40 CFR 63.7575.

f. Cooling Tower:

i. The affected cooling tower is not subject to 35 IAC 219.986(d), because the cooling tower does not cool process water.

ii. The affected cooling tower is not subject to 40 CFR Part 63 Subpart Q because no chromium-based water treatment chemicals are used.

7.10.5 Control Requirements

a. Requirements for affected Power Boiler #1 from Permit 06070023

i. Emissions of PM and PM_{10} from the affected Power Boiler #1 shall be controlled by the existing BFG pretreatment system, which entails treatment by dust catchers and wet scrubbers [T1].

ii. BFG and natural gas shall be the only fuels fired in the affected Power Boiler #1 [T1].

iii. Affected Power Boiler #1 shall be operated for the primary purpose of supplying steam and electricity to the source with no more than 219,000 MW-hour of excess electricity sent to any utility power distribution system for sale in any calendar year from the electrical generator associated with the unit [T1].

b. Pursuant to 40 CFR 60.42b(k)(2), the sulfur content of the fuel fired in Power Boiler #1 shall not exceed 0.16 lb/mmBtu.

c. Requirements for affected Boilers #11 and #12

Only natural gas, coke oven gas and blast furnace gases are allowed to use as the fuels.

d. Requirements for affected Cooling Tower

Pursuant to 40 CFR 63.402, the Permittee shall not use chromium-based water treatment chemicals in the water cooling tower.

7.10.5-1 Work Practice Requirements

a. Pursuant to Sections 39.5(7)(a) and (d) of the Act, unless the Permittee conducts continuous emission monitoring for CO for an affected boiler, the Permittee shall conduct an annual tune-up for the boiler, as follows, to maintain compliance with 35 IAC 216.121. If annual tune-ups or combustion adjustments are required for an affected boiler pursuant to 40 CFR 63, Subpart DDDDD, these tune-ups shall also be conducted in accordance of applicable provisions of this NESHAP.

i. Each annual tune-up must be no more than 13 months after the previous tune-up. If the boiler is not operating on the required date for a tune-up, the tune-up must be conducted within one week of startup.

ii. Each tune-up shall consist of the following:

A. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the burner inspection may be delayed until the next scheduled unit shutdown, but each burner must be inspected at least once every 36 months);

B. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;

C. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly; and

D. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available.

iii. Measure the concentrations in the effluent stream of CO in parts per million by volume (ppmv), and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made); and

iv. Submit a report to the Illinois EPA within 30 days of each tune-up that contains the following information:

A. The identity of the boiler, the date of the tune-up and the individual(s) who performed the tune-up and a summary of their experience with combustion tune-ups of boilers.

B. The concentrations of CO in the effluent stream in ppmv and oxygen in volume percent, measured before and after the adjustments of the boiler;

C. A description of any corrective actions taken as a part of the combustion adjustment; and

D. The type and amount of fuel used over the 12 months prior to the annual adjustment.

b. Pursuant to 40 CFR 63.7530(h), for an affected boiler that is subject to emission limits in 40 CFR 63 Subpart DDDDD, the Permittee must minimize the boiler's startup and shutdown periods following the manufacturer's recommended procedures, if available. If manufacturer's recommended procedures are not available, the Permittee must follow recommended procedures for a boiler of similar design for which manufacturer's recommended procedures are available.

7.10.6 Operational, Production and Emission Limitations

a. Limitations for affected Power Boiler #1 from Permit 06070023:

Note: Permit 06070023 includes certain limitations that apply to the combination of affected power boiler #1 and BFG flare #2, which is a new flare that was also constructed with the boiler. BFG flare #2 is generally addressed in Section 7.4 of this CAAPP permit.

i. The maximum design firing rate of affected Power Boiler #1 shall not exceed 505 mmBtu/hour [T1].

ii. The maximum design BFG input of affected Power Boiler #1 shall not exceed 476 mmBtu/hour [T1].

iii. Fuel usage for affected Power Boiler #1 and BFG flare #2 (see Section 7.4) shall not exceed the following limits (rolling 12-month basis) [T1]:

A. Natural gas: 341,666 mmBtu/year.

B. BFG and natural gas fuel usage combined: 4,511,426 mmBtu/year.

iv. Emissions of PM from affective Power Boiler #1, as measured by USEPA Method 5, shall not exceed 0.03 lb/mmBtu of exhaust [T1].

v. A. Emissions from affective Power Boiler #1 shall not exceed the following limits [T1]:

Pollutant	Mode	
	BFG* (Lbs/mmBtu)	Natural Gas (Lbs/mmBtu)
NO_x	0.05	0.12
CO	0.15	0.0824
VOM	---	0.0054
PM/PM_{10}	0.101	0.0075
SO_2	0.20	0.0006
Indiv. Metal HAP	0.00066	0.00066
Total HAPs	0.0053	0.0053

* BFG mode entails firing a mix of BFG with up to 10 percent natural gas.

B. Compliance with these limits shall be determined as a 3-hour average unless continuous emissions monitoring is conducted, in which compliance shall be determined as a daily average (24 operating hours).

C. Combined emissions from affected Power Boiler #1 and BFG flare #2 (see Section 7.4) shall not exceed the following limits [T1]:

Pollutant	Emissions	
	Tons/Month	Tons/Year
NO_x	12.5	124.74
CO	33.9	338.36
VOM	0.1	0.92
PM/PM_{10}	22.9	228.39
SO_2	45.2	451.14
Indiv. Metal HAP	0.2	1.5
Total HAPs	1.2	12.0

D. Compliance with annual limits in Condition 7.10.6(a) shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12

month total), unless otherwise specified in a particular condition.

b. Limits for the affected Cooling Tower from Permit 06070023 [T1]:

i. The total dissolved solids content of water circulating in the affected cooling tower shall not exceed 4,190 ppm on a monthly basis.

ii. Emissions of PM/PM_{10} from the affected cooling tower shall not exceed 0.39 tons/month and 3.86 tons/year. Compliance with the annual limit shall be determined from a running total of 12 months of data.

7.10.7-1 Current Testing Requirements

The Permittee shall conduct emission testing for the affected boilers as provided below pursuant to Sections 39.5(7)(c), (d) and (p) of the Act.

a. Requirements for affected Boilers #11 and #12:

i. PM and CO emissions shall be measured to determine compliance with 35 IAC 212.458(b)(9) (Condition 7.10.3(c)) and 35 IAC 216.121 (Condition 7.10.3(f)) in accordance with procedures in USEPA Methods 1 through 4 and Method 5 (or Method 201A), as provided in 35 IAC 212.108, and Method 10 or 10B.

ii. The testing shall be completed within 30 months of the effective date of this permit condition and may be done on either affected Boiler #11 or #12, as selected by the Illinois EPA.

iii. In addition to other required information, the test report shall include data for the sulfur and PM content of BFG and COG during the period of testing, with supporting data.

b. Requirements for affected Power Boiler #1:

i. Permittee shall conduct emission tests at least every five years on the affected Power Boiler #1.

ii. CO, NO_x, SO_2, PM_{10}, PM and VOM emissions shall be determined in accordance with the test methods identified below.

iii. These tests shall also include measurements of emissions of metals if the Permittee elects to conduct emissions testing to verify compliance with the limits for metal HAPs, as an alternative to applying data for the metal HAP content of material collected during pretreatment of the BFG.

iv. The following USEPA test methods shall be used for testing of emissions, unless another USEPA method is approved by the Illinois EPA.

Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3
Moisture	Method 4
SO_2	Method 6
PM/PM_{10} (filterable	Methods 201 or 201A*
PM (condensable)	Method 202
VOM	Method 18 or 25A
NO_x	Method 7E or 19
CO	Method 10 or 10B
Metals	Method 29

* The Permittee may also use Method 5 as an alternative to Method 201A, provided that the measured results shall be considered PM_{10}.

v. In addition to other required information, the test report shall include data for the sulfur and PM content of BFG and the metals content of the material removed from raw BFG by the pretreatment system during the period of testing, with supporting calculations.

c. For this emission testing, test notifications and reporting shall be done by the Permittee in accordance with Conditions 8.6.2 and 8.6.3 of this permit.

d. Observation of opacity shall be conducted during all emission tests of affected boilers in accordance with Method 9 and the results of these observations included in the reports for emission testing.

7.10.7-2 Additional Performance Testing Requirements (40 CFR Part 63, Subpart DDDDD)

a. Pursuant to 40 CFR 63.7505(c) and 63.7510, if affected Boiler #11 or #12 is subject to emission limits in 40 CFR 63 Subpart DDDDD, the Permittee must demonstrate compliance with all limits that are applicable using performance testing according to 40 CFR 63.7(a)(2) and 63.7520 and fuel analysis according to 40 CFR 63.7521, including a continuous emissions monitoring system (CEMS) where applicable, in a timely manner. The Permittee may demonstrate compliance with the applicable emission limit for hydrogen chloride or mercury using fuel analysis if the emission rate calculated according to 40 CFR 63.7530(c) is less than the applicable emission limit. Otherwise, the Permittee must demonstrate compliance for hydrogen chloride or mercury using performance testing.

i. Pursuant to 40 CFR 63.7545(d),the Permittee must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin.

ii. Pursuant to 40 CFR 63.7510(a), performance tests shall be conducted according to 40 CFR 63.7520(a), (c), (d) and (e) and Table 5 to 40 CFR 63, Subpart DDDDD fuel analysis for each type of fuel burned in the boiler shall be conducted according to 40 CFR 63.7521(a),(b) and (e) and Table 6 to 40 CFR 63, Subpart DDDDD, and performance evaluations for the oxygen monitor shall be conducted according to 40 CFR 63.7525.

b. Pursuant to 40 CFR 63.7530(g), if the Permittee elects to demonstrate that the gaseous fuel fired in affected Boiler #11 or #12 meets the specifications of an "other gas 1 fuel" as defined in 40 CFR 63.7575, an initial fuel specification analyses according to 40 CFR 63.7521(f) through (i) must be conducted.

i. If the mercury and hydrogen sulfide constituents in the gaseous fuels will never exceed the specifications included in the definition, the Permittee shall include a signed certification with the Notification of Compliance Status that the initial fuel specification test meets the gas specifications outlined in the definition of other gas 1 fuels.

ii. Pursuant to 40 CFR 63.7540(c), if the Permittee elects to demonstrate that the unit meets the specifications for hydrogen sulfide and mercury for the other gas 1 subcategory and cannot submit a signed certification under 40 CFR 63.7545(g) because the constituents could exceed or vary above the specifications, the Permittee must conduct monthly fuel specification testing of the gaseous fuels, according to the procedures in 40 CFR 63.7521(f) through (i) and 40 CFR 63.7540(c) and maintain records of the results of the testing as outlined in 40 CFR 63.7555(g).

7.10.8-1 Current Monitoring Requirements

Pursuant to 39.5(7)(a) and (d) of the Act, all affected boilers and the cooling tower are subject to the following monitoring requirements:

a. Opacity Observations

The Permittee shall conduct opacity observations for each affected boiler semi-annually in accordance with 40 CFR Part 60, Appendix A, Method 9. The duration of these

observations shall be a minimum of 30 minutes for each boiler.

b. Cooling Tower

i. The Permittee shall sample and analyze the water being circulated in the affected cooling tower on at least a monthly basis for the total dissolved solids content.

ii. Upon written request by the Illinois EPA, the Permittee shall have the water circulating in the affected cooling tower sampled and analyzed for the presence of hexavalent chromium in accordance with the procedures of 40 CFR 63.404(a) and (b).

c. Analysis of BFG

i. The Permittee shall sample and analyze cleaned BFG after the pretreatment system for sulfur content (lb/scf and lb/mmBtu), using appropriate ASTM methods or other comparable methodology. These measurements shall be conducted on at least a quarterly basis. The records for this activity shall also include operating data for the blast furnaces and the BFG pretreatment system at the time of sampling.

ii. The Permittee shall sample and analyze the cleaned BFG after the pretreatment system for PM content (gr/scf and lbs/mmBtu) and the material collected by the BFG pretreatment system for HAP metal content (by weight, dry basis, for individual metals as addressed by Method 29) using appropriate ASTM methods or other comparable methodology. These measurements shall be conducted at least every two years. The records for this activity shall also include operating data for the blast furnaces and the BFG pretreatment system at the time of sampling.

7.10.8-2 Additional Monitoring Requirements (40 CFR Part 63 Subpart DDDDD)

Unless an affected boiler is operating as a blast furnace gas fuel-fired boiler, as defined in 40 CFR 63.7575, or is otherwise exempt, beginning on the compliance date of this NESHAP for existing sources, the Permittee must:

a. Install, operate, and maintain a continuous oxygen monitor according to the procedures in 40 CFR 63.7525 (a)(1) through (6) and 63.7535. The oxygen level shall be monitored at the outlet of the boilers [40 CFR 63.7525(a)].

b. Monitor the operating parameters identified in Items 7, 8 and 9 of Table 8 of 40 CFR 63 Subpart DDDDD [40 CFR 63.7540(a)].

c. Operation above the established maximum or below the established minimum operating limits shall constitute a deviation of established operating limits listed in Table 4 of 40 CFR 63 Subpart DDDDD except during performance tests conducted to determine compliance with the emission limits or to establish new operating limits. Operating limits must be confirmed or reestablished during performance tests [40 CFR 63.7540(a)(1)].

7.10.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. Affected Power Boiler #1:

i. A file which contains supporting documentation which demonstrates the maximum design firing rate of the affected boiler (mmBtu/hour), the maximum design BFG input, and the manufacturer's guarantees for the emission rates of the natural gas burners in the affected boiler.

ii. NSPS Data

A. The applicable recordkeeping required by the NSPS for startup, shutdown and malfunction, pursuant to 40 CFR 60.7(b).

B. Daily records of the fuel consumption, pursuant to 40 CFR 60.49b(d)(1).

iii. Fuel usage

A. Records for the amounts of fuel burned by type (mmBtu/month and mmBtu/year) for the affected boiler.

B. Records for the amounts of fuel burned for the affected boiler and the new BFG flare, combined, by type (mmBtu/month and mmBtu/year).

iv. Emissions

The Permittee shall keep the following records related to the emissions of affected Power Boiler #1 to verify compliance with the applicable limits in Condition 7.10.6(a):

A. A file containing the emission factors used by the Permittee to determine emissions of pollutants other than SO2 from the affected boiler and BFG Flare #2, with supporting documentation. These records shall be reviewed

and updated by the Permittee as necessary to assure that the emission factors that it uses to determine emissions of the affected boiler do not understate actual emissions. These records shall be prepared and copies sent to the Illinois EPA in accordance with Condition 5.9.6(c).

B. Records of emissions of NO_x, CO, VOM, PM/PM_{10}, SO_2 and HAPs (tons/month and tons/year) from this boiler, with supporting calculations.

C. Records of summation of emissions of NO_x, CO, VOM, PM/PM_{10}, SO_2 and HAPs from this boiler and BFG Flare #2 (tons/month and tons/year), with supporting calculations.

v. Records of the electricity from the generator associated with Power Boiler #1 sent to the grid for sale per calendar year (MW-hours).

b. Affected Cooling Tower:

i. The Permittee shall keep records of the water circulation capacity of the cooling tower (gallons/minute, hourly average), with supporting calculations.

ii. The Permittee shall keep records of emissions of PM/PM_{10} (tons/month and tons/year), with supporting calculations.

c. Affected Boilers #11 and #12:

i. The following operating information for each boiler:

Usage of each type of fuel (natural gas, COG and BFG gas), in million ft^3 per month and million ft^3 per year.

ii. The Permittee shall keep inspection, maintenance, and repair logs with dates and the nature of such activities for each boiler.

iii. A file containing the emission factors used by the Permittee to determine emissions of NO_x and CO from affected Boilers #11 and #12, with supporting documentation. These records shall be reviewed and updated by the Permittee as necessary to assure that the emission factors that it uses to determine NO_x and CO emissions of these boilers do not understate actual emissions.

d. Records for Startups of Affected Boilers, pursuant to Section 39.5(7)(b) of the Act

i. The Permittee shall maintain startup procedures for each affected boiler, as required by Condition 7.10.3(i)(ii).

ii. The Permittee shall maintain the following records for each startup of an affected boiler:

A. Date, time and duration of the startup.

B. A description of the startup and reason(s) for the startup.

C. Whether a violation of an applicable standard may have occurred during startup accompanied by the information in Condition 7.10.9(d)(iv) if a violation may have or did occur.

D. Whether the established startup procedures, maintained above, were followed accompanied by the information in Condition 7.10.9(d)(iii) if there were departure(s) from those procedures.

iii. If the established startup procedures were not followed during a startup, the Permittee shall maintain the following records:

A. A description of the departure(s) from the established procedures.

B. The reason(s) for the departure(s) from the established procedures.

C. An explanation of the consequences of the departure(s) for emissions, such as whether the departure(s) prolonged the startup or resulted in additional emissions, and if so:

1. The actions taken to minimize emissions and the duration of the startup; and

2. An explanation whether similar incidents might be prevented in the future and if so, the corrective actions taken or to be taken to prevent similar incidents.

iv. If a violation did or may have occurred during a startup, the Permittee shall maintain the following records:

A. Identification of the applicable standard(s) that were or may have been violated.

B. An explanation of the nature of such violation(s), including the magnitude of such excess emissions.

C. A description of the actions taken or to be taken to minimize the magnitude of emissions and duration of the startup.

D. An explanation whether similar incidents could be prevented or ameliorated in the future and if so, a description of the actions taken or to be taken to prevent similar incidents in the future.

e. Records for Malfunctions or Breakdowns

Pursuant to 35 IAC 201.263, the Permittee shall maintain records of continued operation of the affected boilers as addressed by Condition 7.10.3(j), during malfunctions or breakdowns, which at a minimum, shall include the following records. The preparation of these records shall be completed within 45 days of an incident, unless the Permittee conducts a root cause analysis for the incident, in which case the preparation of these records, other than the root cause analysis, shall be completed within 120 days of the incident.

i. Date, time and duration of the incident.

ii. A detailed description of the incident, including:

A. A chronology of significant events during and leading up to the incident.

B. Relevant operating data for the unit, including information such as operator log entries and directives provided by management during the incident.

C. The measures taken to reduce the quantity of emissions and the duration of the incident including the resources utilized to address the incident.

D. The magnitude of emissions during the incident.

iii. An explanation why continued operation of an affected boiler was necessary to prevent personnel injury or prevent equipment damage.

iv. A discussion of the cause(s) or probable cause(s) of the incident including the following:

A. Whether the incident was sudden, unavoidable, or preventable, including:

1. Why the equipment design did not prevent the incident;

2. Why better maintenance could not have avoided the incident;

3. Why better operating practices could not have avoided the incident; and

4. Why there was no advance indication for the incident.

B. Whether the incident stemmed from any activity or event that could have been foreseen, avoided or planned for.

C. Whether the incident was or is part of a recurring pattern indicative of inadequate design, operation or maintenance.

v. A description of any steps taken or to be taken to prevent similar future incidents or reduce their frequency and severity.

vi. As an alternative to keeping the records required by Condition 7.10.9(e)(iv), the Permittee may perform a root cause analysis. For this purpose, a root cause analysis is an analysis whose purpose is to determine, correct and eliminate the primary causes of the incident and the excess emissions resulting there from. If the Permittee performs a root cause analysis method that would define the problem, define all causal relationships, provide a causal path to the root cause, delineate the evidence, and provide solutions to prevent a recurrence. Such an analysis shall be completed within one year of the incident.

f. Records for the emission testing conducted on the affected boilers.

g. If the Permittee operates under manufacturer's specifications or manufacturer's instructions, such manufacturer's documentation shall be kept at the source as part of the required records.

h. Unless an affected boiler is operating as a blast furnace gas fuel-fired boiler, as defined in 40 CFR 63.7575, or is otherwise exempt, beginning on the compliance date of this NESHAP for existing sources, the Permittee must keep records in accordance with 40 CFR 63.7555(a) through (h) as applicable.

7.10.10 Reporting Requirements

a. i. The Permittee shall promptly notify the Illinois EPA, Air Compliance Section, within 30 days of deviations of the affected boilers and affected cooling tower from the following applicable requirements unless a NESHAP standard specifies a different time frame, pursuant to Section 39.5(7)(f)(ii) of the Act:

A. Requirements in Condition 7.10.3(b), (d) and (e) through (h).

B. Requirements in Condition 7.10.5.

C. Requirements in Condition 7.10.6.

ii. All such deviations shall be summarized and reported as part of the semiannual monitoring report required by Condition 8.6.1.

b. The Permittee shall notify the Illinois EPA, Air Compliance Section, of all other deviations as part of the semiannual monitoring reports required by Condition 8.6.1.

c. All deviation reports described in Condition 7.10.10(a) and (b) above shall contain the following:

i. Date, time and duration of the deviation;

ii. Description of the deviation;

iii. Probable cause of the deviation; and

iv. Any corrective actions or preventive measures taken.

d. Reporting on the State malfunction and breakdown authorization shall be performed in accordance with Condition 5.10.5-2.

e. For affected Power Boiler #1, the Permittee shall comply with the applicable reporting requirements of the NSPS, as specified in 40 CFR 60.7 and 60.49b.

f. Unless an affected boiler is operating as a blast furnace gas fuel-fired boiler, as defined in 40 CFR 63.7575, or is otherwise exempt, beginning on the compliance date of this NESHAP for existing sources, the Permittee must report each instance in which it did not meet each emission limit and operating limit in Tables 1 through 4 to 40 CFR 63 Subpart DDDDD that are applicable. These instances are deviations from the established emission limits. These deviations must be reported according to the requirements in 40 CFR 63.7550.

g. Reporting on the State startup authorization shall be performed in accordance with Condition 5.10.5-1.

h. Reporting on the Federal SSM authorization shall be performed in accordance with Condition 5.10.5-3.

7.10.11 Compliance Procedures

For affected boilers, compliance with the applicable standards of Condition 7.10.3, the work practice requirements of Condition 7.10.5-1, and the production/operating and the emission limits of Condition 7.10.6 is addressed by the work practices, testing, monitoring, recordkeeping and reporting requirements in Section 7.10 of this permit.

7.10.12 State-Only Conditions

a. Applicable requirements for affected Boilers #11 and #12 from Permit 10080022:

i. Pursuant to 35 IAC 217.150, 217.152, and 217.160, by the applicable compliance date for 35 IAC Part 217 Subparts D and E, the Permittee shall comply with applicable requirements of these rules for the affected boilers, including:

A. Compliance with the applicable NO_x emissions limitation in lb/mmBtu, calculated in accordance with 35 IAC 217.164(b), on an ozone season (May 1 through September 30) and annual basis [35 IAC 217.164(b)].

B. Operation of each affected boiler in a manner consistent with good air pollution control practices to minimize NO_x emissions [35 IAC 217.150(e)].

C. Certifying to the Illinois EPA that the affected boilers will be in compliance with the applicable emissions limitation of 35 IAC 217.164 by the applicable compliance date [35 IAC 217.152 and 217.155(b)].

D. Installation, operation and maintenance of a Continuous Emissions Monitoring System (CEMS) on each affected boiler to measure emissions of NO_x, with accompanying recordkeeping and reporting for the operation and maintenance of each CEMS [35 IAC 217.157(a)(2) and 217.156(b)(9), (b)(10) and (j)].

ii. Recordkeeping Requirements [39.5(7)(e) of the Act]

Beginning on the compliance date of 35 IAC 217 Subparts D and E, the Permittee shall keep the following records for each Boiler #11 and #12:

A. Usage of each type of fuel (natural gas, coke oven gas and blast furnace gas), in million ft^3 per month and million ft^3 per year.

B. The actual heat input in mmBtu per ozone season and mmBtu per year, for each fuel, with supporting documentation for the heat content of each fuel.

C. The applicable NO_x emission limitation in lb/mmBtu for each ozone season and each calendar year, calculated in accordance with 35 IAC 217.164(b).

D. The average hourly NO_x emission data.

E. The ozone season and annual NO_x emissions (pounds).

F. The ozone season average and annual average NO_x emission rates (lbs/mmBtu heat input) calculated within 30 days of the end of the averaging periods (i.e. calculated by October 30 for ozone season averaging period and by January 30 for annual averaging period).

G. Inspection, maintenance, and repair logs with dates and the nature of such activities for each affected boiler.

iii. Reporting Requirements [39.5(7)(f) of the Act]

If there is any deviation of the requirements of Condition 7.10.12, the Permittee shall promptly report to the Illinois EPA as specified below and report shall include a description of the deviation, the probable cause of the deviation, corrective actions taken, and any preventive measures taken:

A. Deviations from the NO_x emission limitation in 35 IAC 217.164(b) shall be reported within 30 days of such occurrence.

B. Other deviations shall be reported in a semi-annual report.

7.10.13 Construction Permit Conditions for Equipment that is not yet built

Applicable requirements for portable Boilers #1 through #4 from Permit 10100042:

a. Pursuant to the NSPS, 40 CFR 60.11(d), at all times the Permittee shall, to the extent practicable, maintain and operate each portable boiler in a manner consistent with good air pollution control practices for minimizing emissions.

b. Pursuant to 35 IAC 216.121, the emission of carbon monoxide (CO) from each portable boiler shall not exceed 200 ppm, corrected to 50 percent excess air.

c. Pursuant to 35 IAC 212.123(a), the opacity of the exhaust from each portable boiler shall not exceed 30 percent, except as provided in 35 IAC 212.123(b).

d. This permit is issued based on the emissions of HAPs as listed in Section 112(b) of the Clean Air Act from the affected boilers being less than 10 tons per year of a single HAP and 25 tons per year of any combinations of such HAPs, so that these boilers are considered a minor source for HAPs.

e. This permit is issued based on the portable boilers not being subject to the control requirements of 35 IAC 217, Subparts D and E, which establish requirements that reflect Reasonably Available Control Technology (RACT) for boilers related to emission of nitrogen oxide (NO_x). This is because the NO_x emissions from each portable boiler are restricted to less than 15 tons per year and to less than 5 tons per ozone season, pursuant to 35 IAC 217.150(a), as addressed further.

f. Natural gas shall be the only fuel fired in the portable boilers.

g. The maximum design heat input capacity of each portable boiler, as defined by the NSPS, 40 CFR 60.41c, shall not exceed 100 mmBtu/hour.

Note: If a portable boiler were to have a heat input capacity of greater than 100 mmBtu/hr, it would be subject to the NSPS, 40 CFR 60 Subpart Db, rather than Subpart Dc.

h. i. The total consumption of natural gas by the portable boilers shall not exceed 1,738 million scf per year, combined.

ii. Beginning Calendar year 2012 or such later date, the natural gas usage by each portable boiler shall not exceed 812 million scf per year and 267 million scf

during each ozone season (May 1 through September 30).

i. The portable boilers shall only be used to address interruptions in the normal steam supply to the Granite City Works. For this purpose, the portable boilers and existing boilers may operate simultaneously, as may be needed to ensure availability of the portable boilers and facilitate transitions between existing boilers and the portable boilers.

j. i. Short-term emissions from each portable boiler shall not exceed 0.036 lb of NO_x/mmBtu and 3.6 and 3.8 lbs/hour, for NO_x and CO, respectively.

ii. Annual emissions from the portable boilers, combined shall not exceed the following limits. These limits are established based on total fuel usage of 1,738 million scf per year. Compliance with these limitations and the annual fuel consumption limit shall be determined from a running total of 12 months of data.

Pollutant	Emission Limit (ton/year)
NO_x	31.9
CO	33.2
VOM	3.5
$PM/PM_{10}/PM_{2.5}$	1.1
SO_2	1.3
Individual HAP[1]	1.8
Total HAP	3.5

[1] Individual HAP refers to individual pollutants, such as Formaldehyde, Benzene, Toluene, Hexane, etc.

k. Beginning Calendar Year 2012, the NO_x emissions of each portable boiler shall be less than the applicability thresholds of 35 IAC 217, Subparts D and E, i.e., less than 15 tons per year and less than 5 tons during each ozone season.

l. The Permittee shall operate and maintain the portable boilers in accordance with good air pollution control practices to assure proper functioning of equipment and minimize malfunctions, including maintaining the boiler in accordance with written procedures developed for this purpose.

m. Within 90 days after a written request from the Illinois EPA or such later date agreed to by the Illinois EPA, the Permittee shall have NO_x and CO emissions of portable

boiler(s), as specified in the request, measured by an independent testing service approved by the Illinois EPA.

n. The Permittee shall maintain the following records for the portable boilers:

i. A file containing the following information:

A. The maximum design heat input capacity of each portable boiler, mmBtu/hour, with supporting documentation.

B. The maximum fuel flow rate to each portable boiler, in scf/hour and mmBtu/hour, with supporting documentation.

C. The guarantee or other information for the NO_x and CO emission rates of each portable boiler, in lb/hour and in lb/mmBtu (NO_x only), with supporting documentation.

ii. An operating log or other records for the portable boilers that, at a minimum, shall include the following information:

A. Information identifying each period when portable boiler(s) are operated, with the explanation why the boiler(s) need to be operated to maintain the normal steam supply for the source.

B. If the maximum design heat input capacity of the portable boiler is more than 95 mmBtu/hour, operating records to demonstrate that the boiler is not fired at more than 100 mmBtu/hour.

C. Information for each startup and shutdown, including date, time and duration, as required by 40 CFR 60.7(b).

D. Information for any incident in which the operation of each portable boiler continued during malfunction or breakdown, as required by 40 CFR 60.7(b). These records shall include date, time, and duration; a description of the incident; whether emissions exceeded or may have exceeded any applicable standard; a description of the corrective actions taken to reduce emissions and the duration of the incident; and a description of the preventative actions taken.

iii. An inspection, maintenance, and repair log with dates and the nature of such activities for the portable boilers.

iv. The following records for the natural gas usage of the portable boilers:

A. Natural gas usage of each boiler, pursuant to 40 CFR 60.48c(g) (scf/month).

B. Total natural gas usage of the boilers (scf/year).

v. Records of the monthly and annual emissions of NO_x, CO, $PM/PM_{10}/PM_{2.5}$, VOM, SO_2, and HAPs from the boilers (tons/month and tons/year), with supporting data and calculations.

vi. Beginning Calendar year 2012, records of NO_x emissions for each portable boiler for the calendar year (ton/year) and for the ozone season (ton/season).

o. Pursuant to 40 CFR 60.7(a)(3) and 60.48c(a), the Permittee shall furnish the Illinois EPA with written notification of initial startup of each portable boiler. This notification shall be submitted within 15 days after the initial startup of the portable boiler, postmarked by such date, and include the following information. For this purpose, a separate notification shall be provided each time that portable boiler(s) are installed at the Granite City Works.

i. The design heat input capacity of the boiler and identification of the fuels to be combusted in the boiler, pursuant to 40 CFR 60.48c(a)(1).

ii. The annual capacity factor at which the Permittee anticipates operating the boiler based on fuel fired, pursuant to 40 CFR 60.48c(a)(3).

iii. With the notification required from above, the Permittee shall also provide the manufacturer and serial number of portable boiler(s).

p. The Permittee shall notify the Illinois EPA of deviations of the portable boilers with the requirements of Condition 7.10.13 within 30 days of an occurrence. Reports shall describe the deviation, the probable cause of such deviations, the corrective actions taken, and any preventive measures taken.

7.11 Internal Combustion Engine

7.11.1 Description

A diesel fuel fired emergency engine-generator is used for power outages at the facility.

Note: This narrative description is for informational purposes only and is not enforceable.

7.11.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Engine	Emergency Engine-Generator (maximum power output 3,500 HP)	2001	None

7.11.3 Applicable Provisions and Regulations

a. The "affected engine" for the purpose of these unit-specific conditions, is the emission unit described in Conditions 7.11.1 and 7.11.2.

b. The affected engine is subject to 35 IAC 212.458(b)(7) and (c), which provides that its PM_{10} emissions shall not exceed 22.9 mg/scm (0.01 gr/scf), provided however that this limit shall not apply if there are no visible emissions, except if a stack test is performed. The absence of visible emissions is not a defense to a finding violation.

c. The affected engine is subject to 35 IAC 212.123(a), which provides that no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, except as allowed by 35 IAC 212.123(b) and 212.124.

d. The affected engine is subject to 35 IAC 214.301 and 35 IAC 214.304/214.122, which provides that no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to exceed 2000 ppm and from any fuel burning process emission unit burning distillate oil to exceed 0.3 lbs/mmBtu.

7.11.4 Non-Applicability of Regulations of Concern

a. The affected engine is not subject to 40 CFR Part 63 Subpart ZZZZ because it is not a spark ignition engine.

b. The affected engine is not subject to 40 CFR Part 60 Subpart IIII, because the affected engine was manufactured before 2006 and was not modified or reconstructed

thereafter, so does not meet applicable criteria in 40 CFR 60.4200(a).

c. The affected engine is not subject to 35 IAC Part 217, because the affected engine is not a type of process emission unit addressed by Part 217.

d. The affected engine is not subject to the requirements of 35 IAC 212.321 because it does not have a process weight rate as defined in 35 IAC 211.5250.

e. The affected engine is not subject to 35 IAC 216.121, because the affected engine is not by definition a fuel combustion emission unit.

f. 35 IAC 212.324 is not applicable to the affected engine pursuant to 35 IAC 212.324(a)(3), because the affected engine is subject to 35 IAC 212.458(b)(7), an emission limitation in 35 IAC Part 212, Subpart R.

7.11.5 Control Requirements and Work Practices

The operation of the emergency generator is limited to 500 hours per year [00060003, T1].

7.11.6 Production and Emission Limitations from Permit 00060003 [T1]

a. Emissions of the affected engine shall not exceed the following limits:

Pollutant	Emissions (lbs/hr)	Emissions (T/yr)
PM	2.48*	0.62
CO	21.11*	5.3
NO_x	79.49*	19.9
SO_2	12.54	3.1

* Operation at a level of 10 percent higher than the applicable hourly emissions limits above is allowed during startup.

b. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

7.11.7 Testing Requirements

Upon the written request from the Illinois EPA, the emission tests shall be conducted by the Permittee for the affected engine to verify compliance with emission limits in Condition 7.11.6 as follows [Sections 39.5(7)(c), (d) and (p) of the Act].

a. The following USEPA test methods shall be used, unless another USEPA method is approved by the Illinois EPA.

Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3
Moisture	Method 4
PM	Method 5
NO_x	Method 7E or 19
CO	Method 10 or 10B

b. Observations of opacity shall be conducted during these emission tests in accordance with Method 9 and the results of these observations included in the reports for emission testing.

c. For this emission testing, test notifications and reporting shall be done by the Permittee in accordance with Conditions 8.6.2 and 8.6.3 of this permit.

7.11.8 Monitoring Requirements

a. The Permittee shall perform annual sampling and analysis for sulfur content (lbs/mmBtu) in the fuel for the affected engine or obtain a certification for each fuel supplied delivery for the affected engine [Section 39.5(7)(d) of the Act].

b. The Permittee shall conduct opacity observations for the affected engine in accordance with Method 9 on an annual basis if the affected engine starts for purposes of reliability testing. The duration of Method 9 test shall be equal to 30 minutes or the duration of the reliability test, whichever is less [Section 39.5(7)(p) of the Act].

7.11.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected engine, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. A file for the affected engine containing:

i. The manufacturer's emission guarantees or emission data for the engine, for PM, CO and NO_x, both during normal operation and startup (lbs/hour and lbs/gallon) and manufacturer's data for fuel consumption and exhaust flow rate from the engine, with supporting documentation.

ii. Engineering calculations to demonstrate that PM emissions comply with 35 IAC 212.458(b)(7) and to determine the greatest sulfur content (lbs/mmBtu) in fuel with which compliance with 35 IAC 214.301 and 35 IAC 214.304/214.122 would be shown.

iii. The emission rate(s) used by the Permittee to determine emissions of the affected engine when these rates are different from the manufacturer's rates, accompanied by supporting documentation. Copies of these records shall be submitted to the Illinois EPA, with initial records submitted within 15 days of the date that the records are prepared or 30 days after the effective date of this permit, whichever is later and subsequent revisions to these records submitted within 15 days of the date that the Permittee completes preparation of revised records.

b. Records of fuel consumption (gal/month and gal/year).

c. Records of hours of operation (hrs/yr).

d. Records for number of startups.

e. Records for the sulfur content (lbs/mmBtu) of fuel as determined by sampling and analyses of fuel or copies of supplier certifications for sulfur content of fuel and identification of any use of oil whose sulfur content exceeded the level for compliance, as determined pursuant to Condition 7.11.9(a)(ii).

f. Records of emissions of PM, CO, NO_x and SO_2 (tons/month and tons/year) from the engine with supporting calculations. For this purpose, PM, CO and NO_x emissions shall be calculated from fuel usage and number of startups and the manufacturer's emission guarantees for emission rates or such higher emission rate(s) that accurately reflect actual operation of the engine. SO_2 emissions shall be calculated from the sulfur content of the fuel and fuel usage, assuming complete conversion of sulfur to SO_2.

g. Records for stack tests and opacity observations.

7.11.10 Reporting Requirements

a. i. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the Illinois EPA, Air Compliance Section, within 30 days of deviations by the affected engine as follows:

A. Requirements in Condition 7.11.3(b), (c) and (d).

B. Requirements in Condition 7.11.5.

C. Requirements in Condition 7.11.6.

ii. All such deviations shall be summarized and reported as part of the semiannual monitoring report required by Condition 8.6.1.

b. The Permittee shall notify the Illinois EPA, Air Compliance Section, of all other deviations as part of the semiannual monitoring reports required by Condition 8.6.1.

c. All deviation reports described in Condition 7.11.10 above shall contain the following:

i. Date, time and duration of the deviation;

ii. Description of the deviation;

iii. Probable cause of the deviation; and

iv. Any corrective action or preventive measures taken.

7.11.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected engine.

7.11.12 Compliance Procedures

For the affected engine, compliance with the applicable standards of Condition 7.11.3, the control/work practice requirements of Condition 7.11.5, and the production/emission limits of Condition 7.11.6 is addressed by testing, monitoring, recordkeeping and reporting requirements in Section 7.11 of this permit.

7.11.13 State-Only Conditions

State-only conditions are not being established.

7.12 Gasoline Storage and Dispensing

7.12.1 Description

Gasoline storage and dispensing is conducted for the Permittee's fleet of gasoline fueled vehicles. There are several such stations at the facility, so that fleet vehicles do not have to travel on public roads to reach the fueling stations.

Note: This narrative description is for informational purposes only and is not enforceable.

7.12.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Gasoline Storage	Four storage tanks located at: Storeroom (1,000 gallons capacity); Machine Shop (1,000 gallons capacity); Wastewater Facility (250 gallons capacity); Blast Furnace Facility(1,000 gallons capacity)	N/A	Control Practices: Submerged loading pipe (all tanks) and Stage I system (tanks with 1,000 gallons capacity)

7.12.3 Applicable Provisions and Regulations

a. The "affected gasoline storage tanks", for the purpose of these unit-specific conditions are the tanks described in Conditions 7.12.1 and 7.12.2 above.

b. The affected gasoline storage tank at the wastewater facility is subject to the following:

No person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 l (250 gal), unless such tank is equipped with a permanent submerged loading pipe [35 IAC 219.122(b)].

c. Pursuant to 35 IAC 219.583(c)(1), the affected gasoline storage tanks at the storeroom, machine shop and blast furnace facility are subject to the following requirements of 35 IAC 219.583(a): No person shall cause or allow the transfer of gasoline from any delivery vessel into any stationary storage tank at a gasoline dispensing facility unless:

i. The tank is equipped with a submerged loading pipe [35 IAC 219.583(a)(1)].

ii. The vapors displaced from the storage tank during filling are processed by a vapor control system [35 IAC 219.583(a)(2)].

iii. All tank vent pipes are equipped with pressure/vacuum relief valves that are designed and shall be set to resist a pressure of at least 3.5 inches water column and to resist a vacuum of no less than 6.0 inches water column [35 IAC 219.583(a)(3)].

d. Pursuant to 35 IAC 219.585(a), all the affected gasoline storage tanks are subject to the following: No person shall sell, offer for sale, dispense, supply, offer for supply, or transport for use in Illinois gasoline whose Reid vapor pressure exceeds the applicable limitations set forth below during the regulatory control periods, which shall be June 1 to September 15.

i. The Reid vapor pressure of gasoline, a measure of its volatility, shall not exceed 7.2 psi (9.68 kPa) during the regulatory control period [35 IAC 219.585(b)].

ii. The Reid vapor pressure of ethanol blend gasolines having at least nine percent (9%) but not more than ten percent (10%) ethyl alcohol by volume of the blended mixture, shall not exceed the limitations for gasoline set forth in Condition 7.12.2(d)(i) above by more than 1.0 psi (6.9 kPa) [35 IAC 219.585(c)].

7.12.4 Non-Applicability of Regulations of Concern

a. This permit is issued based on the affected gasoline storage tank not being subject to the NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels), 40 CFR Part 60, Subpart Kb, because each tank is less than 40 cubic meters (10,566 gallons).

b. This permit is issued based on the affected gasoline storage tanks not being subject to 35 IAC 219.121, because each affected tank is less than 40,000 gallons [35 IAC 219.121].

c. This permit is issued based on the affected gasoline storage tanks not being subject to 35 IAC 219.122(a), because each affected tank is less than 40,000 gallons [35 IAC 219.122].

d. The affected gasoline storage tanks are not subject to 35 IAC 219.301 because the affected gasoline storage tanks do not use organic material. In addition, the storage tanks are regulated by 35 IAC 219.122(b) and 35 IAC 219.583(c)(1).

e. The affected gasoline storage and dispensing operations are not part of a bulk gasoline plant (35 IAC 219.581) or bulk gasoline terminals (35 IAC 219.582) pursuant to relevant definitions in 35 IAC Part 211.

f. This permit is issued based on the gasoline storage and dispensing operations performed at wastewater facility not being subject to 35 IAC 219.583(a)(2) and (a)(3) pursuant to 35 IAC 219.583(b)(3), because the tank capacity is less than 575 gallons.

g. The affected gasoline storage tanks are not eligible for the exemption from the permitting in 35 IAC 219.583(e) because they are not located at retail dispensing operations, as defined at 35 IAC 211.5630.

7.12.5 Control Requirements and Work Practices

The affected gasoline storage tanks (other than the affected gasoline storage tank at the wastewater facility) are subject to the following control requirements and work practices:

a. Pursuant to 35 IAC 219.583(c), each owner of a gasoline dispensing operation shall:

i. Install all control systems and make all process modifications required by Condition 7.12.3(c) (see also 35 IAC 219.583(a)) [35 IAC 219.583(c)(1)];

ii. Provide instructions to the operator of the gasoline dispensing operation describing necessary maintenance operations and procedures for prompt notification of the owner in case of any malfunction of a vapor control system [35 IAC 219.583(c)(2)]; and

iii. Repair, replace or modify any worn out or malfunctioning component or element of design [35 IAC 219.583(c)(3)].

b. Pursuant to 35 IAC 219.583(d), each operator of a gasoline dispensing operation shall:

i. Maintain and operate each vapor control system in accordance with the owner's instructions [35 IAC 219.583(d)(1)];

ii. Promptly notify the owner of any scheduled maintenance or malfunction requiring replacement or repair of a major component of a vapor control system [35 IAC 219.583(d)(2)];

iii. Maintain gauges, meters or other specified testing devices in proper working order [35 IAC 219.583(d)(3)]; and

iv. Pursuant to 35 IAC 219.583(d)(4), operate the vapor collection system and delivery vessel unloading points in a manner that prevents:

A. A reading equal to or greater than 100 percent of the lower explosive limit (LEL measured as propane) when tested in accordance with the procedure described in EPA 450/2-78-051 Appendix B [35 IAC 219.583(d)(4)(A)]; and

B. Avoidable leaks of liquid during the filling of storage tanks [35 IAC 214.583(d)(4)(B)].

v. Within 15 business days after discovery of the leak by the owner, operator, or the Agency, repair and retest a vapor collection system which exceeds the limits of Condition 7.12.5(iv) above [35 IAC 219.583(d)(5)].

c. Pursuant to 35 IAC 219.584(a), the Permittee shall ensure that each gasoline delivery vessel that comes on to the property to fill the affected gasoline storage tanks at the storeroom, machine shop, or blast furnace facility are complying with the following:

i. Shall have a vapor space connection that is equipped with fittings which are vapor tight;

ii. Shall have its hatches closed at all times during unloading operations, unless a top loading vapor recovery system is used;

iii. Shall not internally exceed a gauge pressure of 18 inches of water or a vacuum of 6 inches of water;

iv. Shall be designed and maintained to be vapor tight at all times during normal operations;

v. Shall not be refilled in Illinois at other than a bulk gasoline terminal that complies with the requirements of 35 IAC 219.582 or a bulk gasoline plant that complies with the requirements of 35 IAC 219.581(b).

vi. Shall have a sticker affixed to the tank adjacent to the tank manufacturer's data plate which contains the tester's name, the tank identification number and the date of the test. The sticker shall be in a form prescribed by the Illinois EPA.

7.12.6 Production and Emission Limitations

Production and emission limitations are not set for the affected gasoline storage tanks.

7.12.7 Testing Requirements

a. Pursuant to 35 219.583(a)(4), the Permittee shall demonstrate compliance with the pressure/vacuum relief valves specifications of Condition 7.12.3(c)(iii) at a gasoline dispensing operation by measuring and recording the pressure indicated by a pressure/vacuum gauge at each tank vent pipe 30 days after installation of each pressure/vacuum relief valve, and at least annually thereafter. The test shall be performed on each tank vent pipe within two hours after product delivery into the respective storage tank. For manifold tank vent systems, observations at any point within the system shall be adequate.

b. The Permittee shall test the relief valves whenever there is a modification of an existing vapor control system [39.5(7)(d) and (p) of the Act].

7.12.8 Monitoring Requirements

The Permittee shall perform the following monitoring pursuant to Sections 39.5(7)(a) and (d) of the Act.

a. The Permittee shall perform semi-annual inspections of the gasoline storage and dispensing operations at the storeroom, machine shop and blast furnace while the tank is being filled.

i. Retractors, hoses, breakaways, swivels

ii. Adapters, vapor caps, rubber gaskets, and spill containment buckets

b. The Permittee shall perform an annual inspection of the gasoline storage tank at wastewater facility and dispensing operation to ensure that a submerged loading pipe is physically present and the condition of the pipe for integrity.

7.12.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected gasoline storage tanks, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. Records of the testing and repair of the vapor collection system and pressure/vacuum relief valves, pursuant to Condition 7.12.7.

b. Records of gasoline throughput (gallons per month and gallons per year).

c. For the affected gasoline storage tanks during the regulatory control period, the Permittee shall keep the following records:

i. Retain a copy of an invoice, bill of lading, or other documentation used in normal business practice stating that the Reid vapor pressure of the gasoline complies with the Reid vapor pressure standard as provided in 35 IAC 219.585(h)(1)(A);

ii. Maintain records on the Reid vapor pressure, quantity received and date of delivery of any gasoline or ethanol blends arriving at the gasoline operation [35 IAC 219.585(h)(2)].

d. Copies of the annual certification(s) from the supplier of gasoline that all the delivery vessels have been tested and are in compliance with the requirements of Condition 7.12.5(c).

e. A copy of operating and maintenance procedures and instructions for the tanks and vapor control systems.

f. Records for all inspections.

7.12.10 Reporting Requirements

a. i. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the Illinois EPA, Air Compliance Section, within 30 days of deviations by the affected gasoline storage tanks from applicable requirements, as follows:

A. Requirements in Condition 7.12.3(b) through (d).

B. Requirements in Condition 7.12.5(a) and (b).

ii. All such deviations shall be summarized and reported as part of the semiannual monitoring report required by Condition 8.6.1.

b. The Permittee shall notify the Illinois EPA, Air Compliance Section, of all other deviations as part of the semiannual monitoring reports required by Condition 8.6.1.

c. All deviation reports described in Condition 7.12.10 above shall contain the following:

i. Date, time and duration of the deviation;

ii. Description of the deviation;

iii. Probable cause of the deviation; and

iv. Any corrective action or preventive measures taken.

7.12.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected gasoline storage tanks.

7.12.12 Compliance Procedures

For the affected gasoline storage tanks, compliance with the applicable standards of Condition 7.12.3 is addressed by the work practices, testing, monitoring, recordkeeping and reporting requirements described in Section 7.12 of this permit.

7.12.13 State-Only Conditions

State-only conditions are not being established.

7.13 Fugitive Dust

7.13.1 Description

Fugitive dust is emitted from vehicle traffic, unloading operations, wind erosion of piles, roadways, parking lots and other open areas at the facility. The source also emits fugitive dust from an on-site landfill for furnace dusts and other industrial wastes.

Note: This narrative description is for informational purposes only and is not enforceable.

7.13.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
Fugitive Emissions	Landfill Vehicular Traffic on Roadways, Parking Lots and Other Open Areas Unloading Operations Storage Piles and associated activities Beaching Areas	N/A	N/A

7.13.3 Applicable Provisions and Regulations

a. The "affected activities" for the purpose of these unit-specific conditions, are the activities described in Conditions 7.13.1 and 7.13.2 above.

b. The affected activities are subject to 35 IAC 212.306 which provides that all normal traffic pattern roads and parking facilities which are located on mining or manufacturing property shall be paved or treated with water, oils or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils or chemical dust suppressants shall have the treatment applied on a regular basis, as needed, in accordance with the operating program required by 35 IAC 212.309, 212.310 and 212.312.

c. All storage piles of materials with uncontrolled emissions of fugitive particulate matter in excess of 45.4 Mg per year (50 T/yr) which are located within a source whose potential particulate emissions from all emission units exceed 90.8 Mg/yr (100 T/yr) shall be protected by a cover or sprayed with a surfactant solution or water on a regular basis, as needed, or treated by an equivalent method, in

accordance with the operating program required by 35 IAC 212.309, 212.310 and 212.312 of 35 IAC Part 212 Subpart K [35 IAC 212.304(a)].

d. Applicable emission limitations established by 35 IAC 212.316:

i. Emission Limitations for Storage Piles. No person shall cause or allow fugitive particulate matter emissions from any storage pile to exceed an opacity of 10 percent, to be measured four ft from the pile surface.

ii. Additional Emissions Limitations for the Granite City Vicinity as defined in 35 IAC 212.316(e)(1):

Emissions Limitations for Roadways or Parking Areas Located at Integrated Iron and Steel Manufacturing Plants. No person shall cause or allow fugitive particulate matter emissions from any roadway or parking area located at a slag processing facility or integrated iron and steel manufacturing plant to exceed an opacity of 5 percent.

iii. Pursuant to 35 IAC 212.316(f), emission limitation for all other activities (see the definition for emission unit in 35 IAC 211.1950). Unless an activity has been assigned a particulate matter, PM_{10}, or fugitive particulate matter emissions limitation elsewhere in 35 IAC 212.316 or in Subparts R or S of 35 IAC Part 212, no person shall cause or allow fugitive particulate matter emissions from any such activity to exceed an opacity of 20 percent.

e. All conveyor loading operations to storage piles specified in 35 IAC 212.304 shall utilize spray systems, telescopic chutes, stone ladders or other equivalent methods in accordance with the operating program required by 35 IAC 212.309, 212.310 and 212.312 [35 IAC 212.305].

7.13.4 Non-Applicability of Regulations of Concern

The landfill operated on the site is not subject to 35 IAC Part 220 for municipal waste landfills. The landfill serves only the needs for Permittee's operations in accepting industrial waste generated on-site and no municipal or any off-site waste is accepted by this landfill.

7.13.5 Control Requirements and Work Practices

a. Pursuant to permit #95010001 [T1], the Permittee shall comply with the following on-site and off-site fugitive dust control requirements:

i. On-site fugitive dust control

A. The Permittee shall sweep or flush at least every day the paved access area below the BOF ESP where ESP dust collection bags (i.e., super-sacks, storage bags or other containers for ESP dust) are used, stored and transported.

B. The Permittee shall implement a housekeeping program for the non-roadway areas below and around the BOF ESP. This program shall, at a minimum, contain the following:

1. The ground and other accessible areas where dust may gather shall be swept or cleaned at least every day;

2. Cleaning shall be performed in such a manner as to minimize the escape of dust into the atmosphere;

3. Dust collection bags shall be inspected at least daily for rips, tears, or insecure connection to the discharge of the ESP hoppers;

4. Dust collection bags shall be inspected after removal from, and connection to, the discharge of the ESP hoppers;

5. Ripped or torn bags shall be taken out of service and transported in a covered truck.

C. Unpaved Roads. For unpaved roads that are part of normal traffic patterns (including roads B, C, E, N, F-F, and CS(2)) the Permittee shall apply a chemical dust suppressant at least three times a month, with the following exceptions:

1. Road segment G-G, which shall be sprayed at least quarterly;

2. Road segment L, which shall be sprayed at least 4 times per month.

3. All other unpaved roads shall be treated as necessary.

4. Applications of suppressant may be less frequent than specified above if weather conditions, i.e., precipitation or temperature, interfere with the schedule for spraying, provided each such instance shall be recorded in accordance with the

daily records for on-site fugitive dust control required by Condition 7.13.9(b).

D. Paved roadways and areas. Paved roadways and areas shall be maintained in good condition by the Permittee.

On paved roadways and other areas, the Permittee shall sweep or flush as follows:

1. Road segments D, K, M, F, G, J, R, and O shall be swept or flushed at least daily;

2. Road segments P, V, W, X, Z, D-D, E-E, and CS(1) shall be swept or flushed at least five days per week;

3. Road segments S and T shall be swept or flushed at least every other day;

4. Road segments A and H shall be swept or flushed at least once per month;

5. All gate areas leading from the steelworks area shall be swept or flushed at least daily;

6. All gate areas leading from the iron making area shall be swept or flushed at least five times per week.

7. The above on-site dust control measures shall be conducted to maximize their effectiveness by performing said measures when the roads or areas are not obstructed by parked vehicles and by preferentially using filter sweeping (e.g., Enviro-Whirl sweeper) for the gate areas, the roads and areas surrounding the BOPF shop and BOF ESP.

b. The fugitive dust control measures outlined above do not relieve the Permittee from complying with additional control measures identified in the PM_{10} contingency plan as required by Condition 5.3.3 of this permit [95010001, T1R].

c. The landfill operated by the Permittee shall not accept any off-site wastes, including municipal, hospital/medical or hazardous wastes [Section 39.5(7)(l) of the Act].

d. Pursuant to the Road Cleaning Program required by Permit #06070088, the Permittee shall comply with the following control requirements (for purposes of this condition

affected road segments are those identified in Condition 7.13.5(d)(iii):

i. Good air pollution control practices shall be implemented to minimize and reduce nuisance dust from the affected road segments.

ii. Cleaning of affected road segments shall be performed using vacuum cleaning equipment (such as Enviro-Whirl). Any dust laden air shall be vented through a filtering system on the vacuum cleaning equipment before discharge to atmosphere.

The handling of material collected by vacuum cleaning equipment during road cleaning shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods to control PM emissions from transfer of material for disposal.

iii. Affected road segments shall be cleaned on the following frequency except during extended periods of inclement weather that act to prevent emissions of fugitive dust from the affected road segments:

A. Cleaning on a twice weekly basis:

Road Segment	Segment Boundaries
Madison Ave	16th & 20th Streets
Central 20th Street	Madison St. & USS Gate
East 20th Street	USS Gate & Rte 203
21st Street	Rte 203 and Monroe St.
North Edwardsville Rd	20th & Nameoki (Rte 203)

B. Cleaning on a twice monthly basis:

Road Segment	Segment Boundaries
Rock Road	Rte 3 & W. 20th St. (Overpass Approach)
West 20th St.	Rte 3 & Rock Road
Rock Road	W. 20th & Benton St. (Railroad Overpass)
Niedringhaus	Benton St. and 16th St.
16th Street	Niedringhaus & Madison St.
South Edwardsville Rd	20th & McCambridge Ave (Rte 203)
McCambridge Ave	Edwardsville Rd (Rte 203) & 2nd St.
Route 162	Nameoki Rd (Rte 203) & Railroad Tracks
Benton Street	Rock Rd. and Niedringhaus

7.13.6 Production and Emission Limitations

Total fugitive emission of PM/PM_{10} from the roadways at the source shall not exceed 27 tons/year. Compliance with the

annual limits shall be determined based on a calendar year pursuant to Permit 95010001 [T1].

7.13.7 Testing Requirements

a. Opacity observations shall be conducted by a qualified observer in accordance with procedures published in 40 CFR Part 60, Appendix A, Method 9, except as specified below.

i. Opacity readings on each roadway or parking area shall be conducted at least annually. On unpaved roadways or parking areas, the reading shall not be conducted within three days of the application of any dust suppressants.

ii. The Permittee shall observe, one day per calendar month, the opacity of emissions from each active coal storage pile and areas travelled by equipment hauling coal from these coal storage piles to coal processing operations unless prolonged weather conditions preclude scheduled observations. In addition, the observer shall remain in the area for at least 3 hours to perform opacity readings on other coal piles which become active during this 3 hour period.

iii. All opacity readings conducted on visible emissions generated by vehicular traffic on roadways, parking areas and heavy equipment traffic associated with storage piles, shall be in accordance with the procedures specified in 35 IAC 212.109.

iv. All opacity readings on storage piles shall be measured four feet above the pile surface. The duration of opacity observations for each test shall be at least 30 minutes (five 6-minute averages) or 12 minutes without visible emissions.

b. Upon written request by the Illinois EPA, such testing shall be conducted for specific affected operations(s) within 45 calendar days of the request or on the date agreed upon by the Illinois EPA, whichever is later. As least 30 days prior to the scheduled test date, the Permittee shall submit a detailed test plan to the Illinois EPA, describing the manner of operations of the affected activity and all control measures that will be implemented during the testing. The results of the testing will be submitted within thirty calendar days of the completion of the tests.

c. The testing conditions from above are established in accordance with requirements of 39.5(7)(p) of the Act.

d. Pursuant to Permit 06070088, the Permittee shall conduct silt loading measurements as follows [T1] (for purposes of

this condition affected road segments are those identified in Condition 7.13.5(d)(iii)):

i. The Permittee shall conduct measurements of the silt loading on the affected road segments, with sampling and analysis conducted using the "Procedures for Sampling Surface/Bulk Dust Loading," Appendix C.1 in Compilation of Air Pollutant Emission Factors, USEPA, AP-42. A series of samples shall be taken to determine the average silt loading on each affected road segment and address the change in silt loadings as related to the amount and nature of vehicle traffic.

ii. Measurements for "controlled" silt loading shall be repeated at least every three years pursuant to the Road Cleaning Program of Condition 7.13.5(d).

iii. Measurements for "controlled" silt loadings shall be conducted upon written request by the Illinois EPA, as specified in the request, which shall be completed within 75 days of the Illinois EPA's request.

7.13.8 Monitoring Requirements

a. Except as provided in Condition 7.13.8(b), the Permittee shall perform inspections of the affected activities on at least a quarterly basis, including associated control measures, while the affected activities are in use, to confirm compliance with the requirements of Condition 7.13.3. Control measures may include material characteristics. These quarterly inspections may be scheduled so that only a number of affected activities are reviewed during each inspection, provided however, that all affected activities shall be inspected at least once during each calendar year. For the purpose of this condition, all affected activities means each type of material handled. (Sections 39.5(7)(a) and (d) of the Act).

b. The Permittee shall perform inspections, on a once per calendar month basis, during receipt of the truck unloading each contracted supply of coal.

c. As part of the inspections required by 7.13.8(a), the Permittee shall perform observations for visible emissions by Method 22. These observations shall be conducted during the operation of each activity for a minimum of 18 minutes, or for activities that operate on a batch basis, for a minimum of six consecutive batches. If visible emissions are observed, the Permittee shall take corrective action within 2 hours to return the status of the operation to no visible emissions or observations of opacity by Method 9 shall be conducted. For the purpose of this condition, returning the status of operations to no visible emissions

does not include, for any activity, temporary idling of lack of operation between batches.

d. The requirements from above are established pursuant to Sections 39.5(7)(a) and (d) of the Act.

7.13.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected areas of fugitive emissions, pursuant to Sections 39.5(7)(a) and (e) of the Act:

a. Records required by 35 IAC 212.316(g):

i. The owner or operator of any fugitive particulate matter emission unit subject to 35 IAC 212.316 shall keep written records of the application of control measures for compliance with the opacity limitations of 212.316 and shall submit to the Illinois EPA an annual report containing a summary of such information.

ii. The records shall include at least the following:

A. The name and address of the source;

B. The name and address of the owner and/or operator of the source;

C. A map or diagram showing the location of all emission units controlled, including the location, identification, length, and width of roadways;

D. For each application of water or chemical solution to roadways by truck: the name and location of the roadway controlled, application rate of each truck, frequency of each application, width of each application, identification of each truck used, total quantity of water or chemical used for each application and, for each application of chemical solution, the concentration and identity of the chemical;

E. For application of physical or chemical control agents: the name of the agent, application rate and frequency, and total quantity of agent, and, if diluted, percent of concentration, used each day; and

F. A log recording incidents when control measures were not used and a statement of explanation.

iii. Copies of all records required by 35 IAC 212.316 shall be submitted to the Illinois EPA within ten (10) working days after a written request by the Illinois EPA and shall be transmitted to the Illinois EPA by a company-designated person with authority to release such records.

iv. The records required under 35 IAC 212.316 shall be kept and maintained for at least five (5) years at the source and be available for inspection and copying by Illinois EPA representatives during working hours.

b. i. The Permittee shall maintain daily records relative to the on-site fugitive dust control program which includes the following information at a minimum, pursuant to the Permit 95010001:

A. The date (and time for the gate areas) each road or area was treated;

B. The manner in which the road or area was treated (i.e., filter sweep, conventional sweep, suppressant spray or flush);

C. Detailed information for use of dust suppressant, including but not limited to the application rate, dilution ratio, type of suppressant used, and the number of gallons of suppressant applied;

D. Observations, if any, concerning the condition of the roadway, e.g., presence of parked vehicles, detection of potholes;

E. The amount of precipitation and temperature recorded for each day, and if determination was made to suspend application of suppressant, include name and title of person who made determination to suspend application and explanation; and

F. Any and all suspensions or deviations from the work practices and control procedures of Condition 7.13.5, with a date, description, and explanation for suspension of application.

ii. The Permittee shall keep a record containing calculations and analysis for the emissions from roadways at the source with emissions calculation performed in accordance with the methodology set forth in Section 13.2.1 of AP-42, to verify compliance with Condition 7.13.6. A copy of this record shall be submitted to the Illinois EPA each time it is prepared, with submittal made within 15

days of the date that the Permittee completes the preparation of new or revised calculations and analysis.

c. The Permittee shall maintain the most current versions of the PM_{10} contingency plan and the fugitive particulate matter control program.

d. The Permittee shall keep records of the silt measurements conducted pursuant to Condition 7.13.7(d), including records for the sampling and analysis activities and results.

e. Recordkeeping requirements for the Road Cleaning Program (for purposes of this condition affected road segments are those identified in Condition 7.13.5(d)(iii):

i. A. The Permittee shall keep a record describing the Road Cleaning Program that at a minimum: identify any contractors implementing the program for the Permittee and their duties for implementing the Program under the contract; the equipment used by the Permittee or its contractor for cleaning roads, including for each item of equipment, a description of and the manufacturer's specifications for collection of silt from roadways and control of dust emissions from the cleaning process; and the standards practices that are used to clean roads under the Program, such as type of equipment, and speed of travel.

B. The Permittee shall keep records for implementation of the Road Cleaning Program that at a minimum: Identify each time that an affected road segment was cleaned, with a description of any circumstances that may have affected the extent or nature of cleaning; and identify each time that scheduled cleaning was not performed, with detailed explanation.

C. The Permittee shall keep records documenting maintenance and repair of road cleaning equipment.

ii. The Permittee shall keep a record containing calculations and analysis for the annual reduction in emissions that is achieved by the Road Cleaning Program, with emissions calculation performed in accordance with the methodology set forth in Section 13.2.1 of AP-42, to verify that the Road Cleaning Program is achieving 236.03 tons/yr reduction, total, of particulate matter determined as PM_{10} from baseline emission levels of 656.87 tons/year from the affected road segments. This record shall be prepared in

conjunction with the measurements of "controlled" silt loadings required by Condition 7.13.7(d). A copy of this record shall be submitted to the Illinois EPA each time it is prepared, with submittal made to the Illinois EPA within 15 days of the date that the Permittee completes the preparation of new or revised calculations and analysis.

7.13.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Air Compliance Section, of deviations of the affected area of fugitive emissions with the permit requirements, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports submitted by the Permittee shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

a. i. Pursuant 35 IAC 212.316(g)(5), the Permittee shall submit a quarterly report to the Illinois EPA stating the following: the dates any necessary control measures were not implemented, a listing of those control measures, the reasons that the control measures were not implemented, and any corrective actions taken. This information includes, but is not limited to, those dates when controls were not applied based on a belief that application of such control measures would have been unreasonable given prevailing atmospheric conditions, which shall constitute a defense to the requirements of 35 IAC 212.316. This report shall be submitted to the Agency thirty (30) calendar days from the end of a quarter. Quarters end March 31, June 30, September 30, and December 31.

ii. Pursuant to permit 06070088, the Permittee shall submit a quarterly report to the Illinois EPA describing the implementation of the Road Cleaning Program during the previous quarter. This report shall at a minimum provide: the number of times each road segment was cleaned; the number of times that cleaning was not performed, with explanation; a description of any significant changes in road cleaning equipment or cleaning practices, with explanation; and a description of other changes to the Road Cleaning Program, including changes in contractors.

b. i. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the Illinois EPA, Air Compliance Section, within 30 days of deviations in the affected areas of fugitive emissions, as follows:

A. Requirements in Condition 7.13.3(b) through (e).

B. Requirements in Condition 7.13.5.

C. Requirements in Condition 7.13.6.

ii. All such deviations shall be summarized and reported as part of the semiannual monitoring report required by Condition 8.6.1.

c. The Permittee shall notify the Illinois EPA, Air Compliance Section, of all other deviations as part of the semiannual monitoring reports required by Condition 8.6.1.

d. Deviation reports described in Condition 7.13.10(b) and (c) above shall contain the following:

i. Date, time and duration of the deviation;

ii. Description of the deviation;

iii. Probable cause of the deviation; and

iv. Any corrective action or preventive measures taken.

7.13.11 Operational Flexibility/Anticipated Operating Scenarios

a. Beaching

The following requirements established by Permits 72080034 and 72080036 shall be implemented:

i. Under the following circumstances beaching of iron may occur:

A. In the event that Blast Furnace A or Blast Furnace B must be shut down in order to cast the furnace dry.

B. In the event that an interruption in the BOF steelmaking and/or casting operations will result in a temporary surplus of iron, beyond the capacity of the system to hold, necessitating beaching in order to cast the furnace dry and provide the ability to safely shut down.

C. In the event that the blast furnace produces unusable iron such as high silica or low temperature iron. High silica iron shall be blended and used to the extent possible at the BOF in order to reduce beaching. Low temperature iron shall be used at the BOF to the extent possible until solidification in the car becomes imminent. In other cases of

unusable iron, such iron shall be used when possible to minimize the quantity beached.

ii. In the event that the beaching of iron occurs the Permittee shall beach the iron as follows:

A. Beaching shall be allowed only in the event that alternate receptacles are not available;

B. Beaching shall be allowed only if all reasonable measures are taken to minimize the quantity of liquid metal beached, the frequency of a malfunction or breakdown that necessitates beaching, the duration beaching occurs, and the emissions resulting from beaching; and

C. Beaching shall be allowed at a controlled pour rate not to exceed 20 tons per minute.

b. Prior to material in the beaching pit being dug and transferred to vehicles for recycling to the blast furnaces, it shall be watered or treated with other equivalent techniques to minimize particulate matter emissions during such material handling, unless such measures would cause a hazard or safety issue to employees.

7.13.12 Compliance Procedures

a. Compliance with Condition 7.13.3(b) is addressed by the monitoring requirements in Condition 7.13.8(b) and the records in Condition 7.13.9.

b. Compliance with Condition 7.13.3(c), (d), 7.13.5(a), (d), and 7.13.6 is addressed by the testing in Condition 7.13.7, monitoring requirements in Condition 7.13.8(a) and the records in Condition 7.13.9.

c. Compliance with Condition 7.13.3(e) is addressed by the testing requirements Condition 7.13.7, monitoring in Condition 7.13.8(c) and the records in Condition 7.13.9.

d. Compliance with Condition 7.13.5(c) is addressed by the records in Condition 7.13.9.

7.13.13 State-Only Conditions

State-only conditions are not being established.

8.0 GENERAL PERMIT CONDITIONS

8.1 Permit Shield

Pursuant to Section 39.5(7)(j) of the Act, the Permittee has requested and has been granted a permit shield. This permit shield provides that compliance with the conditions of this permit shall be deemed compliance with applicable requirements which were applicable as of the date the proposed permit for this source was issued, provided that either the applicable requirements are specifically identified within this permit, or the Illinois EPA, in acting on this permit application, has determined that other requirements specifically identified are not applicable to this source and this determination (or a concise summary thereof) is included in this permit.

This permit shield does not extend to applicable requirements which are promulgated after May 2, 2011, unless this permit has been modified to reflect such new requirements.

8.2 Applicability of Title IV Requirements (Acid Deposition Control)

This source is not an affected source under Title IV of the CAA and is not subject to requirements pursuant to Title IV of the CAA.

8.3 Emissions Trading Programs

No permit revision shall be required for increases in emissions allowed under any USEPA approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for elsewhere in this permit and that are authorized by the applicable requirement [Section 39.5(7)(o)(vii) of the Act].

8.4 Operational Flexibility/Anticipated Operating Scenarios

8.4.1 Changes Specifically Addressed by Permit

Physical or operational changes specifically addressed by the conditions of this permit that have been identified as not requiring Illinois EPA notification may be implemented without prior notice to the Illinois EPA.

8.4.2 Changes Requiring Prior Notification

The Permittee is authorized to make physical or operational changes that contravene express permit terms without applying for or obtaining an amendment to this permit, provided that [Section 39.5(12)(a)(i) of the Act]:

a. The changes do not violate applicable requirements;

b. The changes do not contravene federally enforceable permit terms or conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements;

c. The changes do not constitute a modification under Title I of the CAA;

d. Emissions will not exceed the emissions allowed under this permit following implementation of the physical or operational change; and

e. The Permittee provides written notice to the Illinois EPA, Division of Air Pollution Control, Permit Section, at least 7 days before commencement of the change. This notice shall:

i. Describe the physical or operational change;

ii. Identify the schedule for implementing the physical or operational change;

iii. Provide a statement of whether or not any New Source Performance Standard (NSPS) is applicable to the physical or operational change and the reason why the NSPS does or does not apply;

iv. Provide emission calculations which demonstrate that the physical or operational change will not result in a modification; and

v. Provide a certification that the physical or operational change will not result in emissions greater than authorized under the conditions of this permit.

8.5 Testing Procedures

Tests conducted to measure composition of materials, efficiency of pollution control devices, emissions from process or control equipment, or other parameters shall be conducted using standard test methods if applicable test methods are not specified by the applicable regulations or otherwise identified in the conditions of this permit. Documentation of the test date, conditions, methodologies, calculations, and test results shall be retained pursuant to the recordkeeping procedures of this permit. Reports of any tests conducted as required by this permit or as the result of a request by the Illinois EPA shall be submitted as specified in Conditions 8.6.3 and 8.6.4.

8.6 Reporting Requirements

8.6.1 Monitoring Reports

Semiannual reports, including monitoring reports summarizing required monitoring as specified in the conditions of this permit shall be submitted to the Illinois EPA, unless more frequent submittal of such reports is required in Sections 5 or 7 of this permit [Section 39.5(7)(f) of the Act]:

Monitoring Period	Report Due Date
January - June	July 31
July - December	January 31

All instances of deviations from permit requirements must be clearly identified in such reports. All such reports shall be certified in accordance with Condition 9.9.

8.6.2 Test Notifications

Unless otherwise specified elsewhere in this permit, a written test plan for any test required by this permit shall be submitted to the Illinois EPA for review at least 60 days prior to the testing pursuant to Section 39.5(7)(a) of the Act. The notification shall include at a minimum:

a. The name and identification of the affected unit(s);

b. The person(s) who will be performing sampling and analysis and their experience with similar tests;

c. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the specified operating parameters, as defined in Section 7 for each emission unit and any control equipment, will be determined;

d. The specific determinations of emissions and operation that are intended to be made, including sampling and monitoring locations;

e. The test method(s) that will be used, with the specific analysis method, if the method can be used with different analysis methods;

f. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification; and

g. Any proposed use of an alternative test method, with detailed justification.

8.6.3 Test Reports

Unless otherwise specified elsewhere in this permit, the results of any test required by this permit shall be submitted to the Illinois EPA within 60 days of completion of the testing. The test report shall include at a minimum [Section 39.5(7)(e)(i) of the Act]:

a. The name and identification of the affected unit(s);

b. The date and time of the sampling or measurements;

c. The date any analyses were performed;

d. The name of the company that performed the tests and/or analyses;

e. The test and analytical methodologies used;

f. The results of the tests including raw data, and/or analyses including sample calculations;

g. The operating conditions at the time of the sampling or measurements; and

h. The name of any relevant observers present including the testing company's representatives, any Illinois EPA or USEPA representatives, and the representatives of the source.

8.6.4 Reporting Addresses

a. Unless otherwise specified in the particular provision of this permit or in the written instructions distributed by the Illinois EPA for particular reports, reports and notifications shall be sent to the Illinois EPA - Air Compliance Unit with a copy sent to the Illinois EPA - Air Regional Field Office.

b. All test protocols, test notifications and test reports shall be sent to the Illinois EPA - Air Compliance Unit with a copy sent to the Illinois EPA - Air Regional Field Office and to the Illinois EPA - Stack Test Specialist.

c. As of the date of issuance of this permit, the addresses of the offices that should generally be utilized for the submittal of reports and notifications are as follows:

i. Illinois EPA - Air Compliance Unit

Illinois Environmental Protection Agency
Bureau of Air
Compliance & Enforcement Section (MC 40)
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

ii. Illinois EPA - Stack Test Specialist

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

iii. Illinois EPA - Air Quality Planning Section

Illinois Environmental Protection Agency
Bureau of Air

Air Quality Planning Section (MC 39)
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

iv. Illinois EPA - Air Regional Field Office

Illinois Environmental Protection Agency
Division of Air Pollution Control
2009 Mall Street
Collinsville, Illinois 62234

v. USEPA Region 5 - Air Branch

USEPA (AR - 17J)
Air & Radiation Division
77 West Jackson Boulevard
Chicago, Illinois 60604

d. Permit applications should be addressed to the Air Permit Section. As of the date of issuance of this permit, the address of the Air Permit Section is as follows:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Permit Section (MC 11)
1021 North Grand Avenue East
P.O. Box 19506
Springfield, Illinois 62794-9506

8.7 Title I Conditions

Notwithstanding the expiration date on the first page of this CAAPP permit, Title I conditions in this permit, which are identified by a T1, T1N, or T1R designation, remain in effect until such time as the Illinois EPA takes action to revise or terminate them in accordance with applicable procedures for action on Title I conditions. This is because these conditions either: (a) incorporate conditions of earlier permits that were issued by the Illinois EPA pursuant to authority that includes authority found in Title I of the CAA (T1 conditions), (b) were newly established in this CAAPP permit pursuant to authority that includes such Title I authority (T1N conditions), or (c) reflect a revision or combination of conditions established in this CAAPP permit (T1R conditions). (See also Condition 1.5.)

9.0 STANDARD PERMIT CONDITIONS

9.1 Effect of Permit

9.1.1 The issuance of this permit does not release the Permittee from compliance with State and Federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or applicable ordinances, except as specifically stated in this permit and as allowed by law and rule.

9.1.2 In particular, this permit does not alter or affect the following [Section 39.5(7)(j)(iv) of the Act]:

a. The provisions of Section 303 (emergency powers) of the CAA, including USEPA's authority under that Section;

b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

c. The applicable requirements of the acid rain program consistent with Section 408(a) of the CAA; and

d. The ability of USEPA to obtain information from a source pursuant to Section 114 (inspections, monitoring, and entry) of the CAA.

9.1.3 This permit and the terms and conditions herein do not affect the Permittee's past and/or continuing obligation with respect to statutory or regulatory requirements governing major source construction or modification under Title I of the CAA. Further, neither the issuance of this permit nor any of the terms or conditions of the permit shall alter or affect the liability of the Permittee for any violation of applicable requirements prior to or at the time of permit issuance.

9.1.4 Except as provided by applicable law, the issuance of this permit by the Illinois EPA does not and shall not be construed as barring, diminishing, adjudicating or in any way affecting any currently pending or future legal, administrative or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the Illinois EPA or the USEPA may have against the applicant including, but not limited to, any enforcement action authorized pursuant to the provision of applicable federal and state law.

9.1.5 Notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, pursuant to Section 39.5(7)(j) and (p) of the Act, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

9.1.6 In the event of an action to enforce the terms or conditions of this permit, this permit does not prohibit a Permittee from invoking any affirmative defense that is provided by the applicable law or rule.

9.2 General Obligations of Permittee

9.2.1 Duty to Comply

The Permittee must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the CAA and the Act, and is grounds for any or all of the following: enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application [Section 39.5(7)(o)(i) of the Act].

The Permittee shall meet applicable requirements that become effective during the permit term in a timely manner unless an alternate schedule for compliance with the applicable requirement is established.

9.2.2 Duty to Maintain Equipment

The Permittee shall maintain all equipment covered under this permit in such a manner that the performance or operation of such equipment shall not cause a violation of applicable requirements.

9.2.3 Duty to Cease Operation

No person shall cause, threaten or allow the continued operation of any emission unit during malfunction or breakdown of the emission unit or related air pollution control equipment if such operation would cause a violation of an applicable emission standard, regulatory requirement, ambient air quality standard or permit limitation unless this permit provides for such continued operation consistent with the Act and applicable Illinois Pollution Control Board regulations [Section 39.5(6)(c) of the Act].

9.2.4 Disposal Operations

The source shall be operated in such a manner that the disposal of air contaminants collected by the equipment operations, or activities shall not cause a violation of the Act or regulations promulgated there under.

9.2.5 Duty to Pay Fees

The Permittee must pay fees to the Illinois EPA consistent with the fee schedule approved pursuant to Section 39.5(18) of the Act, and submit any information relevant thereto [Section 39.5(7)(o)(vi) of the Act]. The check should be payable to "Treasurer, State of Illinois" and sent to: Fiscal Services

Section, Illinois Environmental Protection Agency, P.O. Box 19276, Springfield, Illinois, 62794-9276.

9.3 Obligation to Allow Illinois EPA Surveillance

Upon presentation of proper credentials and other documents as may be required by law and in accordance with constitutional limitations, the Permittee shall allow the Illinois EPA, or an authorized representative to perform the following [Sections 4 and 39.5(7)(a) and (p)(ii) of the Act]:

a. Enter upon the Permittee's premises where an actual or potential emission unit is located; where any regulated equipment, operation, or activity is located or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect during hours of operation any sources, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

d. Sample or monitor any substances or parameters at any location:

i. At reasonable times, for the purposes of assuring permit compliance or applicable requirements; or

ii. As otherwise authorized by the CAA, or the Act.

e. Obtain and remove samples of any discharge or emission of pollutants authorized by this permit; and

f. Enter and utilize any photographic, recording, testing, monitoring, or other equipment for the purposes of preserving, testing, monitoring, or recording any activity, discharge or emission at the source authorized by this permit.

9.4 Obligation to Comply with Other Requirements

The issuance of this permit does not release the Permittee from applicable State and Federal laws and regulations, and applicable local ordinances addressing subjects other than air pollution control.

9.5 Liability

9.5.1 Title

This permit shall not be considered as in any manner affecting the title of the premises upon which the permitted source is located.

9.5.2 Liability of Permittee

This permit does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the sources.

9.5.3 Structural Stability

This permit does not take into consideration or attest to the structural stability of any unit or part of the source.

9.5.4 Illinois EPA Liability

This permit in no manner implies or suggests that the Illinois EPA (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the source.

9.5.5 Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege [Section 39.5(7)(o)(iv) of the Act].

9.6 Recordkeeping

9.6.1 Control Equipment Maintenance Records

A maintenance record shall be kept on the premises for each item of air pollution control equipment. At a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9.6.2 Records of Changes in Operation

A record shall be kept describing changes made at the source that result in emissions of a regulated air pollutant subject to an applicable Clean Air Act requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes [Section 39.5(12)(b)(iv) of the Act].

9.6.3 Retention of Records

a. Records of all monitoring data and support information shall be retained for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit [Section 39.5(7)(e)(ii) of the Act].

b. Other records required by this permit including any logs, plans, procedures, or instructions required to be kept by this permit shall be retained for a period of at least 5

years from the date of entry unless a longer period is specified by a particular permit provision.

9.7 Annual Emissions Report

The Permittee shall submit an annual emissions report to the Illinois EPA, Air Quality Planning Section no later than May 1 of the following year, as required by 35 IAC Part 254.

9.8 Requirements for Compliance Certification

Pursuant to Section 39.5(7)(p)(v) of the Act, the Permittee shall submit annual compliance certifications. The compliance certifications shall be submitted no later than May 1 or more frequently as specified in the applicable requirements or by permit condition. The compliance certifications shall be submitted to the Air Compliance Unit, Air Regional Field Office, and USEPA Region 5 - Air Branch. The addresses for the submittal of the compliance certifications are provided in Condition 8.6.4 of this permit.

a. The certification shall include the identification of each term or condition of this permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, both currently and over the reporting period consistent with the conditions of this permit.

b. All compliance certifications shall be submitted to USEPA Region 5 in Chicago as well as to the Illinois EPA.

c. All compliance reports required to be submitted shall include a certification in accordance with Condition 9.9.

9.9 Certification

Any document (including reports) required to be submitted by this permit shall contain a certification by a responsible official of the Permittee that meets the requirements of Section 39.5(5) of the Act and applicable regulations [Section 39.5(7)(p)(i) of the Act]. An example Certification by a Responsible Official is included as Attachment 1 to this permit.

9.10 Defense to Enforcement Actions

9.10.1 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit [Section 39.5(7)(o)(ii) of the Act].

9.10.2 Emergency Provision

a. An emergency shall be an affirmative defense to an action brought for noncompliance with the technology-based emission limitations under this permit if the following conditions are met through properly signed, contemporaneous operating logs, or other relevant evidence [Section 39.5(7)(k) of the Act]:

i. An emergency occurred as provided in Section 39.5(7)(k) of the Act and the Permittee can identify the cause(s) of the emergency.

Note: For this purpose, emergency means a situation arising from sudden and reasonably unforeseeable events beyond the control of the source, as further defined by Section 39.5(7)(k)(iv) of the Act.

ii. The permitted source was at the time being properly operated;

iii. The Permittee submitted notice of the emergency to the Illinois EPA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and

iv. During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission limitations, standards, or regulations in this permit.

b. This provision is in addition to any emergency or upset provision contained in any applicable requirement. This provision does not relieve a Permittee of any reporting obligations under existing federal or state laws or regulations [Section 39.5(7)(k)(iv) of the Act].

9.11 Permanent Shutdown

This permit only covers emission units and control equipment while physically present at the indicated source location(s). Unless this permit specifically provides for equipment relocation, this permit is void for the operation or activity of any item of equipment on the date it is removed from the permitted location(s) or permanently shut down. This permit expires if all equipment is removed from the permitted location(s), notwithstanding the expiration date specified on this permit.

9.12 Reopening and Reissuing Permit for Cause

9.12.1 Permit Actions

This permit may be modified, revoked, reopened and reissued, or terminated for cause in accordance with applicable provisions of Section 39.5 of the Act. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition [Section 39.5(7)(o)(iii) of the Act].

9.12.2 Reopening and Revision

This permit must be reopened and revised if any of the following occur [Section 39.5(15)(a) of the Act]:

a. Additional requirements become applicable to the equipment covered by this permit and three or more years remain before expiration of this permit.

b. Additional requirements become applicable to an affected source for acid deposition under the acid rain program.

c. The Illinois EPA or USEPA determines that this permit contains a material mistake or that inaccurate statement were made in establishing the emission standards or limitations, or other terms or conditions of this permit.

d. The Illinois EPA or USEPA determines that this permit must be revised or revoked to ensure compliance with the applicable requirements.

9.12.3 Inaccurate Application

The Illinois EPA has issued this permit based upon the information submitted by the Permittee in the permit application. Any misinformation, false statement or misrepresentation in the application shall be grounds for revocation and reissuance under Section 39.5(15) of the Act, pursuant to Sections 39.5(5)(e) and (i) of the Act.

9.12.4 Duty to Provide Information

The Permittee shall furnish to the Illinois EPA, within a reasonable time specified by the Illinois EPA any information that the Illinois EPA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to the Illinois EPA copies of records required to be kept by this permit, or for information claimed to be confidential, the Permittee may furnish such records directly to USEPA along with a claim of confidentiality [Section 39.5(7)(o)(v) of the Act].

9.13 Severability Clause

The provisions of this permit are severable. In the event of a challenge to any portion of the permit, other portions of the permit may continue to be in effect. Should any portion of this permit be determined to be illegal or unenforceable, the validity of the other provisions shall not be affected and the rights and obligations of the Permittee shall be construed and enforced as if this permit did not contain the particular provisions held to be invalid and the applicable requirements underlying these provisions shall remain in force [Section 39.5(7)(i) of the Act].

9.14 Permit Expiration and Renewal

Upon the expiration of this permit, if the source is operated, it shall be deemed to be operating without a permit unless a timely and complete CAAPP application has been submitted for renewal of this permit. However, if a timely and complete application to renew this CAAPP permit has been submitted, the terms and all conditions of this CAAPP permit will remain in effect until the issuance of a renewal permit [Section 39.5(5)(l) and (o) of the Act].

Note: Pursuant to Sections 39.5(5)(h) and (n) of the Act, upon submittal of a timely and complete renewal application, the permitted source may continue to operate until final action is taken by the Illinois EPA on the renewal application, provided, however, that this protection shall cease if the applicant fails to submit any additional information necessary to evaluate or take final action on the renewal application as requested by the Illinois EPA in writing. For a renewal application to be timely, it must be submitted no later than 9 months prior to the date of permit expiration.

9.15 General Authority for the Terms and Conditions of this Permit

The authority for terms and conditions of this permit that do not include a citation for their authority is Section 39.5(7)(a) of the Act, which provides that the Illinois EPA shall include such provisions in a CAAPP permit as are necessary to accomplish the purposes of the Act and to assure compliance with all applicable requirements. Section 39.5(7)(a) of the Act is also another basis of authority for terms and conditions of this permit that do include a specific citation for their authority.

Note: This condition is included in this permit pursuant to Section 39.5(7)(n) of the Act.

10.0 ATTACHMENTS

Attachment 1 Example Certification by a Responsible Official

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____

Name: _____

Official Title: _____

Telephone No.: _____

Date Signed: _____

Attachment 2 Emissions of Particulate Matter from Process Emission Units

10.2.1. Process Emission Units for Which Construction or Modification Commenced On or After April 14, 1972

a. New Process Emission Units for Which Construction or Modification Commenced On or After April 14, 1972 [35 IAC 212.321].

b. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 [35 IAC 212.321(a)].

i. The emissions of particulate matter into the atmosphere in any one hour period from the affected coating lines shall not exceed the allowable emission rates specified in the following equation:

$$E = A\ (P)^B$$

Where:

P = Process weight rate

E = Allowable emission rate

ii. For process weight rates of 408 Mg/hr (450 T/hr):

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	1.214	2.54
B	0.534	0.534

iii. For process weight rates in excess of 408 Mg/hr (450 T/hr):

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	11.42	24.8
B	0.16	0.16

c. Limits for Process Emission Units for which Construction or Modification Commenced On or After April 14, 1972 [35 IAC 212.321(c)]:

Metric		English	
P	E	P	E
Mg/hr	kg/hr	T/hr	lb/hr
0.05	0.25	0.05	0.55
0.1	0.29	0.10	0.77
0.2	0.42	0.2	1.10
0.3	0.64	0.30	1.35
0.4	0.74	0.40	1.58
0.5	0.84	0.50	1.75
0.7	1.00	0.75	2.40
0.9	1.15	1.00	2.60
1.8	1.66	2.00	3.70
2.7	2.1	3.00	4.60
3.6	2.4	4.00	5.35
4.5	2.7	5.00	6.00
9.0	3.9	10.00	8.70
13.0	4.8	15.00	10.80
18.0	5.7	20.00	12.50
23.0	6.5	25.00	14.00
27.0	7.1	30.00	15.60
32.0	7.7	35.00	17.00
36.0	8.2	40.00	18.20
41.0	8.8	45.00	19.20
45.0	9.3	50.00	20.50
90.0	13.4	100.00	29.50
140.0	17.0	150.00	37.00
180.0	19.4	200.00	43.00
230.0	22.0	250.00	48.50
270.0	24.0	300.00	53.00
320.0	26.0	350.00	58.00
360.0	28.0	400.00	62.00
408.0	30.1	450.00	66.00
454.0	30.4	500.00	67.00

10.2.2 Process Emission Units for Which Construction or Modification Commenced Prior to April 14, 1972

a. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced prior to April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 [35 IAC 212.322(a)].

b. The emissions of particulate matter into the atmosphere in any one hour period from the affected unit shall not exceed the allowable emission rates specified in the following equation:

$$E = C + A\ (P)^B$$

Where:

P = Process weight rate

E = Allowable emission rate

i. For process weight rates up to 27.2 Mg/hr (30 T/hr):

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	1.985	4.10
B	0.67	0.67
C	0	0

ii. For process weight rates in excess of 27.2 Mg/hr (30 T/hr):

	Metric	English
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	25.21	55.0
B	0.11	0.11
C	-18.4	-40.0

c. Limits for Process Emission Units for which Construction or Modification Commenced Prior to April 14, 1972 [35 IAC 212.322(c)]:

Metric		English	
P	E	P	E
Mg/hr	kg/hr	T/hr	lb/hr
0.05	0.27	0.05	0.55
0.1	0.42	0.10	0.87
0.2	0.68	0.20	1.40
0.3	0.89	0.30	1.83
0.4	1.07	0.40	2.22
0.5	1.25	0.50	2.58
0.7	1.56	0.75	3.38
0.9	1.85	1.00	4.10
1.8	2.9	2.00	6.52
2.7	3.9	3.00	8.56
3.6	4.7	4.00	10.40
4.5	5.4	5.00	12.00
9.0	8.7	10.00	19.20
13.0	11.1	15.00	25.20
18.0	13.8	20.00	30.50
23.0	16.2	25.00	35.40
27.2	18.15	30.00	40.00
32.0	18.8	35.00	41.30
36.0	19.3	40.00	42.50
41.0	19.8	45.00	43.60
45.0	20.2	50.00	44.60
90.0	23.2	100.00	51.20
140.0	25.3	150.00	55.40
180.0	26.5	200.00	58.60
230.0	27.7	250.00	61.00
270.0	28.5	300.00	63.10
320.0	29.4	350.00	64.90
360.0	30.0	400.00	66.20
400.0	30.6	450.00	67.70
454.0	31.3	500.00	69.00

Attachment 3 Current Emission Factors for Certain Emission Limits

This attachment provides information, based on information provided by the Permittee as of the date of issuance of this revised permit, on the emission factors used by the Permittee to demonstrate compliance with certain emission limits for Material Handling Operations (Section 7.1), Blast Furnace Operations (Section 7.4), Basic Oxygen Process Operations (Section 7.5) and Continuous Casting Activities (Section 7.6), which limits have been carried over from Construction Permit/PSD Approval 95010001. (See also Condition 5.13.)

Operation (Permit Condition)	Pollutant	Emission Factor	Basis
Material Handling Operations (Section 7.1)			
Ladle Metallurgy Material Handling (7.1.6(b)(i))	PM	0.00355 lb/ton	steel
	PM10	0.00355 lb/ton	steel
BOF Additive System (7.1.6(b)(ii))	PM	0.00032 lb/ton	steel
	PM10	0.00032 lb/ton	steel
Flux conveyor Operations (7.1.6(b)(iii))	PM	0.0016 lb/ton	steel
	PM10	0.0016 lb/ton	steel
Iron Pellet Screening (7.1.6(b)(iv))	PM	0.00279 lb/ton	iron pellets
	PM10	0.00279 lb/ton	iron pellets
Blast Furnace Operations (Section 7.4)			
Casthouse (7.4.6(b))	PM	0.0703 lb/ton	iron
	PM_{10}	0.0703 lb/ton	iron
	SO_2	0.2006 lb/ton	iron
	NO_x	0.0144 lb/ton	iron
	VOM	0.0946 lb/ton	iron
Blast Furnace Uncaptured Emissions (7.4.6(c))	PM	0.031 lb/ton	iron
	PM_{10}	0.0155 lb/ton	iron
	SO_2	0.0104 lb/ton	iron
	NO_x	0.0007 lb/ton	iron
	VOM	0.0047 lb/ton	iron
Blast Furnace Charging (7.4.6(d))	PM	0.0024 lb/ton	iron pellets
	PM_{10}	0.0024 lb/ton	iron pellets
Slag Pits (7.4.6(e))	PM	0.00417 lb/ton	iron
	PM_{10}	0.00417 lb/ton	iron
	SO_2	0.01 lb/ton	iron
Iron Spout (7.4.6(f))	PM	0.02548 lb/ton	iron
	PM_{10}	0.02548 lb/ton	iron
	SO_2	0.0073 lb/ton	iron

R010306

Operation (Permit Condition)	Pollutant	Emission Factor	Basis
Basic Oxygen Process Operations (Section 7.5)			
BOF Electrostatic Precipitator (7.5.6(c))	PM	0.16 lb/ton	steel
	PM_{10}	0.16 lb/ton	steel
	NO_x	0.0389 lb/ton*	steel
	VOM	0.006 lb/ton**	steel
	CO	8.993 lb/ton	steel
	Lead	0.1934 lb/hr	-
BOF Roof Monitor (7.5.6(d))	PM	0.0987 lb/ton	steel
	PM_{10}	0.066145 lb/ton	steel
	Lead	0.0129 lb/hour	-
Desulfurization and Hot Metal Transfer (7.5.6(e))	PM	0.03721 lb/ton	iron
	PM_{10}	0.03721 lb/ton	iron
	VOM	0.001 lb/ton	iron
	Lead	0.0133 lb/hr	-
Slag Skimming (7.5.6(f))	PM	0.005 lb/ton	iron
	PM_{10}	0.005 lb/ton	iron
Argon Stirring and Material Handling (7.5.6(g))	PM	0.00715 lb/ton	steel
	PM_{10}	0.00715 lb/ton	steel
Continuous Casting Activities (Section 7.6)			
Baghouse #1 (7.6.6(a))	PM	0.00355 lb/ton	steel
	PM_{10}	0.00355 lb/ton	steel
Continuous Caster Molds (7.6.6(b))	PM	0.006 lb/ton	steel
	PM_{10}	0.006 lb/ton	steel
	NO_x	0.05 lb/ton	steel
Cont. Caster Spray Chambers (7.6.6(c))	PM	0.00852 lb/ton	steel
	PM_{10}	0.00852 lb/ton	steel
Slab Cutoff (7.6.6(d))	PM	0.0071 lb/ton	steel
	PM_{10}	0.0071 lb/ton	steel
Slab Ripping (7.6.6(e))	PM	0.00722 lb/ton	steel
	PM_{10}	0.00722 lb/ton	steel

* As of the date of issuance of this permit, the Permittee had not notified the Illinois EPA of the updated NOx emission factor that it will be using for the BOF ESP as a consequence of the results of recent testing that indicated that a factor of 0.0389 pounds/ton would understate actual emissions. The NOx emission rates measured during such testing, in April 2012 and July 2012, were, respectively, 0.1273 and 0.1535 pounds per ton of steel.

** As of the date of issuance of this permit, the Permittee had not notified the Illinois EPA of the updated VOM emission factor that it will be using for the BOF ESP as a consequence of the results of recent testing that indicated that a factor of 0.006 pounds/ton would understate actual emissions. The VOM emission rates measured during such testing in April 2012 and July 2012, respectively, were 0.023 and 0.0153 pounds per ton of steel.

R010307

CONTESTED CONDITIONS – CAAPP Permit Appeal (Permit issued March 4, 2013)

Contested Condition in CAAPP Permit	CAAPP Permit Page(s)	Emission Factor
5.13 – General Procedures for Certain Permit Limits on Emissions	45-47	NA
7.1 – Material Handling and Processing Operations		
7.1.6(b)(i) – Emissions from Material HS and Deslagging Station (See 7.6.6(a) below)	53	*PM*: 0.00355 lbs/ton *PM10*: 0.00355 lbs/ton
7.1.6(b)(ii) – BOF Additive System (Trackhopper Baghouse)	54	*PM*: 0.00032 lbs/ton *PM10*: 0.00032 lbs/ton
7.1.6(b)(iii) – Flux conveyor and transfer points (Bin Floor Baghouse)	54	*PM*: 0.0016 lbs/ton *PM10*: 0.0016 lbs/ton
7.1.6(b)(iv) – Iron Pellet Screen	54	*PM*: 0.00279 lbs/ton *PM10*: 0.00279 lbs/ton
7.4 – Blast Furnace		
7.4.6(b) – Casthouse Baghouse	158	*PM*: 0.0703 lbs/ton *PM10*: 0.0703 lbs/ton *SO2*: 0.2006 lbs/ton *NOx*: 0.0144 lbs/ton *VOM*: 0.0946 lbs/ton
7.4.6(c) – Blast Furnace uncaptured fugitive emissions	158	*PM*: 0.031 lbs/ton *PM10*: 0.0155 lbs/ton *SO2*: 0.0104 lbs/ton *NOx*: 0.0007 lbs/ton *VOM*: 0.0047 lbs/ton
7.4.6(d) – Blast Furnace Charging	158	*PM*: 0.0024 lbs/ton *PM10*: 0.0024 lbs/ton
7.4.6(e) – Slag Pits	158	*PM*: 0.00417 lbs/ton *PM10*: 0.00417 lbs/ton *SO2*: 0.0100 lbs/ton
7.4.6(f) – Iron Spout Baghouse	159	*PM*: 0.02548 lbs/ton *PM10*: 0.02548 lbs/ton *SO2*: 0.0073 lbs/ton

EXHIBIT B

Contested Condition in CAAPP Permit	CAAPP Permit Page(s)	Emission Factor
7.5 – Basic Oxygen Processes		
7.5.6 (b) – BOF Shop Emissions (tons/yr total) – (Only NOx and VOM annual emission limits)	191	**Annual Emissions:** *NOx*: 70 tpy *VOM:* 12 tpy
7.5.6(c) – BOF ESP Stack (charge, refine, tap)	191	*PM*: 0.16 lbs/ton *PM10*: 0.16 lbs/ton *NOx*: 0.0389 lbs/ton *VOM*: 0.0060 lbs/ton *CO*: 8.993 lbs/ton *Lead*: 0.1934 lbs/hr **Maximum Emissions**: *NOx*: 69.63 tpy *VOM:* 10.74 tpy
7.5.6(c) – BOF ESP Stack – Failure to include note regarding compliance schedule (See Condition 7.5.13)	191	NA
7.5.6(d) – BOF Roof Monitor	191	*PM*: 0.0987 lbs/ton *PM10*: 0.06614 lbs/ton *Lead*: 0.0129 lbs/hr
7.5.6(e) – Hot Metal Desulfurization and Hot Metal Transfer	192	*PM*: 0.03721 lbs/ton *PM10*: 0.03721 lbs/ton *VOM*: 0.0010 lbs/ton *Lead*: 0.0133 lbs/hr
7.5.6(f) – Hot metal charging and ladle slag skimming	192	*PM*: 0.0050 lbs/ton *PM10*: 0.0050 lbs/ton
7.5.6(g) – Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy Baghouse #2)	192	*PM*: 0.00715 lbs/ton *PM10*: 0.00715 lbs/ton
7.5.13 – Compliance Schedule and Current Enforcement Status – Failure to include compliance schedule for NOx and VOM emissions from the BOF Shop related to the VN issued November 30, 2012.	216	NA
7.6 – Continuous Casting		
7.6.6(a) – Deslagging Station and associated Material Handling System (See 7.1.6(b)(i) above)	220	*PM:* 0.00355 lbs/ton *PM10*: 0.00355 lbs/ton

Contested Condition in CAAPP Permit	CAAPP Permit Page(s)	Emission Factor
7.6.6(b) – Caster Molds - Casting	220	*PM*: 0.006 lbs/ton *PM10*: 0.006 lbs/ton *NOx*: 0.050 lbs/ton
7.6.6(c) – Caster Spray Chambers	220	*PM*: 0.00852 lbs/ton *PM10*: 0.00852 lbs/ton
7.6.6(d) – Slab Cut-off		*PM:* 0.0071 lbs/ton *PM10*: 0.0071 lbs/ton
7.6.6(e) – Slab Ripping	220	*PM:* 0.00722 lbs/ton *PM10*: 0.00722 lbs/ton

HODGE DWYER & DRIVER
ATTORNEYS AT LAW

MONICA T. RIOS
E-mail: mrios@hddattorneys.com

February 14, 2013

VIA CERTIFIED MAIL
(Return Receipt Requested)

Mr. Dean Studer
Hearing Officer
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P. O. Box 19276
Springfield, Illinois 62794-9276

Re: Comments on U.S. Steel – Revised CAAPP Permit
Granite City Works, Granite City, Illinois
Facility I.D. No. 119813AAI

Dear Mr. Studer:

On February 5, 2013, the Illinois Environmental Protection Agency ("Illinois EPA") opened a 10 day public notice period on its planned issuance of a revised Clean Air Act Permit Program ("CAAPP") permit for United States Steel Corporation ("U.S. Steel"). Illinois EPA's intention is to address the United States Environmental Protection Agency's ("USEPA") December 3, 2012 order granting in part and denying in part the American Bottom Conservancy's Petition to Object to U.S. Steel's Revised CAAPP permit.

In November 2012, Illinois EPA issued a Violation Notice to U.S. Steel alleging violations for the NOx and VOM limits for the basic oxygen furnace ("BOF") and associated electrostatic precipitator ("ESP") in Condition 7.5.6(c) of U.S. Steel's Revised CAAPP permit. Via letter dated January 30, 2013, U.S. Steel submitted a compliance plan/schedule requesting that it be incorporated into the Revised CAAPP Permit. *See* Attachment A. While Illinois EPA acknowledges receipt of the compliance plan/schedule in the Statement of Basis, Illinois EPA has made the "preliminary decision to wait until the enforcement cases . . . have been resolved and/or adjudicated before including any compliance schedule in a CAAPP permit for the facility." Statement of Basis at 14-15.

EXHIBIT C

In the Statement of Basis issued with the public notice documents, Illinois EPA explained:

> The identification of non-compliance and/or the issuance of a violation notice and reference to the information contained therein, alone, is not sufficient to satisfy the demonstration required under Section 505(b)(2) of the CAA for the inclusion of an approvable compliance schedule in a Title V permit. This alleged non-compliance is simply an early stage in the larger enforcement process of determining whether a violation, in fact, has occurred. This information noted above in the current enforcement cases is, therefore, generally insufficient to warrant a compliance schedule without further investigation by appropriate enforcement staff at the state or federal level.

Statement of Basis at 13.

Although Illinois EPA has made the preliminary decision not to include U.S. Steel's proposed compliance schedule in the planned revisions to the Revised CAAPP Permit, the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/1 *et seq.*, and the regulations promulgated thereunder require that such a compliance schedule be included in the Revised CAAPP Permit when it is reissued. Section 39.5(7)(p)(iii) of the Act states that each CAAPP permit shall include a "schedule of compliance consistent with subsection 5 of this Section and applicable regulations." 415 ILCS 5/39.5(7)(p)(iii); *see also* 415 ILCS 5/39.5(7)(p)(iv) (stating that each CAAPP permit shall include "[p]rogress reports consistent with an applicable schedule of compliance . . .").

Moreover, Section 39.5(7)(p)(iv) of the Act provides that each CAAPP permit shall contain the following elements with respect to compliance:

> Progress reports consistent with an applicable schedule of compliance pursuant to paragraph (d) of subsection 5 of this Section and applicable regulations to be submitted semiannually, or more frequently if the Agency determines that such more frequent submittals are necessary for compliance with the Act or regulations promulgated by the Board thereunder. Such progress reports shall contain the following:
>
> A. Required dates for achieving the activities, milestones, or compliance required by the schedule of compliance and dates when such activities, milestones or compliance were achieved.
>
> B. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

415 ILCS 5/39.5(7)(p)(iv); *see also* 40 C.F.R § 70.6(c)(3) – (4) (stating that "[a]ll part 70 permits shall contain the following elements with respect to compliance . . . [a] schedule of compliance . . . " and progress reports consistent with an applicable schedule of compliance). For such non-compliant emission units, the regulations further require the following:

> ...a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any such applicable requirements for which the source will be in noncompliance at the time of application submittal. This compliance plan/schedule of compliance addendum shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the source is subject

35 Ill. Admin. Code § 270.404(b); *see also* 40 C.F.R. § 70.6(c)(3) (stating that "[a]ll part 70 permits ***shall*** [emphasis added] contain the following elements with respect to compliance . . . [a] schedule of compliance . . .").

Based on the provisions discussed above, CAAPP permits are required to include compliance schedules for emission units that are not in compliance with applicable requirements of the permit at the time of issuance. Illinois EPA stated that it is too soon to determine non-compliance based on the issuance of the violation notice to U.S. Steel because the enforcement process is only in the beginning stages. Illinois EPA also noted that other considerations and information needs to be taken into account prior to revising the CAAPP permit to include a compliance schedule. However, U.S. Steel's January 30, 2013 letter requesting a compliance schedule clearly explained that data from the last two stack tests demonstrated "that the BOF ESP cannot maintain compliance with the current emission limits for NOx and VOM." *See* Attachment A. Thus, U.S. Steel has concluded, based on stack test data, that it cannot comply with certain permit requirements that will be included in the Revised CAAPP Permit when it is issued. Accordingly, U.S. Steel requested that a compliance schedule be included in the upcoming reissuance of the Revised CAAPP Permit and requests that Illinois EPA reconsider its position on this issue. Furthermore, U.S. Steel requests that Illinois EPA include the requested compliance schedule at a new Condition 7.5.13 in the Revised CAAPP Permit, as well as add a Note (*) after existing Condition 7.5.6(c) as follows:

> *These limits have been addressed by the compliance schedule established for compliance with these factors and limits. (See Condition 7.5.13).

U.S. Steel appreciates the opportunity to provide these comments. If you should have any questions regarding the above, please do not hesitate to contact me.

Sincerely,

Monica T. Rios

Monica T. Rios

MTR:kjg
enclosure
pc: David W. Hacker, Esq. (via electronic mail w/ enclosure)
Mr. Bryan M. Kresak (via electronic mail w/ enclosure)
Mr. Jason K. Braxton (via electronic mail w/ enclosure)
Sally A. Carter, Esq. (via electronic mail w/ enclosure)
Mr. Brad Frost (via electronic mail w/ enclosure)

Granite City Works
United States Steel
20th & State Street
Granite City, IL 62040
(618) 451-3456

RECEIVED
JAN 31 2013
Illinois Environmental Protection Agency
BUREAU OF AIR
STATE OF ILLINOIS

January 30, 2013

VIA ELECTRONIC MAIL AND HAND DELIVERY

Michael T. Reed, Manager
CAAPP Unit, Bureau of Air
Illinois Environmental Protection Agency
1021 North Grand Avenue East, Post Office Box 19276
Springfield, Illinois 62794-9276

Subject: United States Steel Corporation Granite City Works
CAAPP No. 96030056, Facility I.D No. 119813AAI
Basic Oxygen Furnace ESP Emissions – Permit Condition 7.5.6(c)

Dear Mr. Reed:

Following up to our prior submittal of stack test results and after receipt of the Violation Notice A-2012-00169, dated November 30, 2012, regarding the Basic Oxygen Furnace ESP emissions, United States Steel Corporation Granite City Works ("U.S. Steel") is hereby submitting a compliance schedule. As you discussed with representatives of U. S. Steel, U. S. Steel respectfully requests that the enclosed schedule, provided per 40 CFR § 70.5(c)(8) and § 39.5 of the Illinois Environmental Protection Act, be incorporated into CAAPP No. 96030056, consistent with 40 CFR § 70.6 and § 39.5 of the Illinois Environmental Protection Act.

The last two stack tests have demonstrated that the BOF ESP cannot maintain compliance with the current emission limits for NOx and VOM. These limits were developed from historic information from a prior owner of the facility. As you know, the ESP does not control nor is it believed to contribute to NOx and VOM emissions.

If you have any questions regarding the enclosed information, please contact Jason Braxton at JKBraxton@uss.com or by phone at (412) 433-6544, or contact Bryan Kresak at BMKresak@uss.com or by phone at (618) 451-3391.

Finally, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

Richard E Veitch

Richard Veitch
General Manager
Granite City Works
United States Steel Corporation

Enclosures

ATTACHMENT A

United States Steel Corporation
Granite City Works
BOP ESP Emissions
Compliance Plan/Schedule
January 30, 2013

Compliance Plan/Schedule Element	Milestone Date*	Completion Date
1. Advise Illinois EPA regarding stack test results/noncompliance.	September 19, 2012	Complete
2. Submit stack test schedule and test protocols to develop emission factors and revise annual limits for NO_x and VOM		April 30, 2013
3. Begin stack testing	1 months after IEPA approval of stack test plan	August 31, 2013
4. Submit final stack test results	2 months after final test	October 31, 2013
5. Submit emission factors for NO_x and VOM based on stack test results for IEPA approval	1 months after submitting results of final stack test	December 31, 2013
6. Submit PSD #95010001 and Title V permit application(s) for integrated processing to establish new NO_x and VOM emission factors and annual limits	6 months after emission factor approval	June 30, 2014
7. Receive PSD Permit	Assume year after application submittal	June 30, 2015
8. Submit Title V application for an administrative amendment or minor modification to incorporate PSD changes	One month after PSD permit issuance	July 31, 2015
9. Receive administrative amendment from IEPA	Three months	August 31, 2015
10. EPA 60-day review	60-days after submittal	October 31, 2015
11. Submit progress reports to IEPA at a minimum of every six (6) months		
12. Compliance**		October 31, 2015

* **An interim milestone date, which is missed, is not a violation provided that the final compliance date(s) are met.**

** **Compliance date based on receiving final permit(s) with new emission factors**

Illinois Environmental Protection Agency
Bureau of Air
Permit Section

Response to Comments on the Planned Issuance of a Revised Clean Air Act Permit Program (CAAPP) Permit to United States Steel Corporation Granite City Works Granite City, Illinois

March 4, 2013

Source I.D. No.: 119813AAI
Permit No.: 96030056

Table of Contents

Decision
Background
Opportunity for Public Comment
Availability of Documents
Comments with Responses
For Additional Information
Summary of Significant Changes between the Draft and the Issued Revised Permits

EXHIBIT D

DECISION

On March 4, 2013, the Illinois EPA issued a revised Clean Air Act Permit Program (CAAPP) permit to United States Steel Corporation - Granite City Works (US Steel) in Granite City, Illinois.

BACKGROUND

US Steel operates an integrated iron and steel mill in Granite City, Illinois. Because of the type and quantity of emissions generated by this source, US Steel is required to have an operating permit under Illinois' Clean Air Act Permit Program (CAAPP) administered by the Illinois EPA.

The CAAPP generally requires that major stationary sources of regulated air pollutants apply for and obtain a CAAPP permit for their operations. CAAPP permits contain conditions identifying all applicable requirements under the federal Clean Air Act and Illinois' Environmental Protection Act (Act).[1] Testing, monitoring, compliance procedures, recordkeeping and reporting requirements are also established, as required or necessary, to assure compliance and accomplish the purposes of the CAAPP. The terms and conditions of a CAAPP permit are enforceable by the Illinois EPA, USEPA and the public.

The Illinois EPA previously issued a CAAPP permit to US Steel on September 3, 2009 (2009 Permit). In the 2009 Permit, among other actions, the Illinois EPA initially carried over emission limits established in various construction permits, including emission limits originally established in Construction Permit/PSD Approval No. 95010001.

A public petition was filed with USEPA on October 1, 2009 requesting that it object to the 2009 Permit. On January 31, 2011, USEPA took final action on the petition, granting it in part and denying it in part (2011 Order). Following a review of USEPA's 2009 Order, the Illinois EPA issued a revised CAAPP Permit to US Steel on May 2, 2011 (2011 Permit). In the 2011 Permit, the Illinois EPA not only explained in greater detail the approach to and use of emission factors for certain emission limits that originated in construction permits, notably Construction Permit/PSD Approval No. 95010001. Various enhancements were also made to monitoring, testing, compliance procedure, recordkeeping and reporting requirements so that Periodic Monitoring in the 2011 Permit would be sufficient to ensure compliance with applicable requirements.

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[1] "Applicable requirements" includes the terms and conditions of preconstruction permits issued under regulations approved by USEPA in accordance with Title I of the Clean Air Act. Preconstruction permits, commonly referred to in Illinois as construction permits, derive from the New Source Review (NSR) permit programs required by Title I of the CAA. These programs also encompass state construction permit programs for projects that are not major. These limits are commonly referred to as "Title I" conditions.

The incorporation, or carry-over, of terms or conditions from previous Title I permits into Title V permits typically does not occur on a wholesale basis. Recognizing that construction permits may frequently contain obsolete or extraneous terms and conditions, USEPA has emphasized that only "environmentally significant terms" from previous preconstruction permits must be carried over into Title V permits. *See*, White Paper for Streamlined Development of Part 70 Permit Applications, dated July 10, 1995.

A second public petition was filed with USEPA on August 16, 2011 requesting that it object to the 2011 Permit. On December 3, 2012, USEPA took final action on this petition, granting it in part and denying it in part (2012 Order). Following a review of USEPA's 2012 Order responding to the petition, consideration of comments from US Steel and the public, the Illinois EPA is now issuing a revised CAAPP Permit (2013 Permit or Revised Permit) to US Steel. Consistent with the 2012 Order, the Illinois EPA has made available in the Revised Permit the initial emission factors that US Steel is currently using to demonstrate compliance with certain emission limits originally established by Construction Permit/PSD Approval No. 95010001. In addition, the Revised Permit enhances Periodic Monitoring originally included in the 2009 and 2011 Permits, further detailing how emission factors will be reviewed and, if necessary, updated in the future to assure that appropriate emission factors are used to determine compliance with subject emission limits.

In conjunction with the issuance of this Revised Permit, the Illinois EPA has also given further attention to the subject of malfunction/breakdown and startup, as addressed by USEPA in the 2012 Order. To assist the Illinois EPA, US Steel supplied additional information to support its requests for permission to make claims related to continued operation of particular emission units during malfunction/breakdown events in violation of certain state emission standards. US Steel also supplied additional information to support its similar requests related to startup of particular units. US Steel has provided all the information that 35 IAC 201.261 requires from a source that is requesting permission to make claims related to continued operation with excess emission during a malfunction/breakdown or startup event. The Illinois EPA previously explained in the Statement of Basis accompanying the Draft Revised Permit why the Revised Permit should continue to provide the requested authorizations consistent with 35 IAC 201.262.

OPPORTUNITY FOR PUBLIC COMMENTS

The issuance of this Revised Permit was preceded by a 10-day comment period in accordance with Section 39.5(9)(g) of the Act. This comment period began on February 5, 2013 and ended on February 14, 2013. Before the start of the comment period, the Illinois EPA made available a copy of the Revised Permit that it planned to issue. The planned Revised Permit and a Statement of Basis were mailed to persons who participated in the earlier comment periods. These documents and other relevant documents were also provided to the Six Mile Regional Library District in Granite City and the Illinois EPA's Offices in Collinsville and in Springfield and made available for review by the public at these three locations.

AVAILABILITY OF DOCUMENTS

Notice of the issuance of this Revised Permit is being mailed to persons who participated in the recent comment period. The Revised Permit that has been issued and this Response to Comments will also be made available for reviewing by the public at the Illinois EPA's Regional Office in Collinsville [618/346-5120], the Illinois EPA Headquarters in Springfield [217/782-7027] and at the main library of the Six Mile Regional Library District in Granite City [618/452-6238]. A printed copy of the documents can be obtained free of charge by contacting Brad Frost at the Illinois EPA's Springfield

Headquarters by telephone [888/372-1996 Toll Free - Environmental Helpline; 217/782-7027 - desk line; 217/782-9143 - TDD], by facsimile [217/524-5023] or by email[brad.frost@illinois.gov].

COMMENTS WITH RESPONSES

1. In the 2012 Order, USEPA directed the Illinois EPA to correct the absence of Periodic Monitoring to ensure compliance with certain "emission factor limits" and "maximum emissions limits" in the CAAPP Permit for USS-GCW. Unfortunately, the Draft Revised Permit would continue to use the same emission factors to ensure compliance with permit limits.

This comment fails to recognize the significant enhancements related to use of emission factors that the Illinois EPA has now made in response to the 2012 Order,[2] as were proposed in the Draft Revised Permit. In particular, the Revised Permit appropriately responds to each of the specific deficiencies in the 2011 Permit identified by USEPA with respect to US Steel's use of emission factors to demonstrate compliance with the subject emission limits. Most significantly, the Revised Permit more clearly sets forth the actions that US Steel must take to review and, if necessary, update the emission factors that it uses to demonstrate compliance with the subject emission limits. For emission units for which stack testing is feasible and appropriate, these actions include review of the results of such testing. For emission units for which stack testing is not feasible or appropriate, it includes periodic review of relevant information related to the emissions of such units. As related to US Steel's use of emission factors with respect to the subject limits, the Revised Permit also includes additional provisions to facilitate supervision of US Steel's use of emission factors by the Illinois EPA, as well as USEPA, consistent with the USEPA's directives in the 2012 Order.[3]

In addition, as will be discussed in more depth later, this comment improperly suggests that the Revised Permit specifies the emission factors that US Steel is entitled to or "may" use to demonstrate compliance with the subject limits. The Revised Permit does not include such emission factors nor did the 2012 Order direct that the Revised Permit include them. Rather the Revised Permit reflects enhancements to US Steel's use of emission factors to demonstrate

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[2] By way of historical background, USEPA objected to the 2009 Permit on the ground, among others, that it lacked Periodic Monitoring to ensure compliance with certain emission limits in the permit insofar as it relied on emission factors from unspecified sources. *See*, 2011 Order. The Illinois EPA could not change the relevant permit conditions because, as explained by the Illinois EPA in its response to the 2011 Order, the "emission factors" in the subject conditions in the 2009 Permit are "emission limits," which were established in Construction Permit/PSD Approval 95010001. Accordingly, in the revised CAAPP Permit issued in May 2011, in response to the 2011 Order, the Illinois EPA added provisions to provide a mechanism to assure compliance with the subject emission limits. *See*, 2011 Permit. The USEPA's 2012 Order addresses the adequacy of the provisions setting forth that mechanism, as well as the ability of the public to comment on the "current" emission factors that US Steel is initially using to determine compliance with the subject emission limits.

[3] The various enhancements that would be and have now been made to the 2011 Permit by the issuance of the Revised Permit are discussed in Section III of the Statement of Basis that was prepared to accompany the Draft Revised Permit.

compliance with the subject emission limits. These emission factors would be only one component of the Periodic Monitoring for the subject emission limits. They would be accompanied by other Periodic Monitoring required for the emission units that are subject to these limits, as these emission units are also subject to various regulatory emission standards that are accompanied by requirements for Periodic Monitoring.

2. The additional information that has now been provided by the Illinois EPA regarding the emission factors plainly shows their inherent inability to determine whether USS-GCW is complying with the subject emission limits. The emission factors are calculated to "document" that USS-GCW is complying with its emission limits without any reality checks required. The Draft Revised Permit would list current emission factors for all emission units with "emission factor limits." Every current emission factor in the Draft Revised Permit is equal to its corresponding "emission factor limit." Therefore, the Draft Revised Permit would place the USS-GCW in compliance with all "emission factor limits" by default. In other words, the Draft Revised Permit would fail to require Periodic Monitoring of actual emissions in order to demonstrate compliance with "emission factor limits."

This comment does not identify a flaw in the Revised Permit relative to the role of emission factors in demonstrating compliance with the subject emission limits. Rather, the comment displays a lack of understanding on the role that emission factors have in the 2011 Permit, as now enhanced with the issuance of the Revised Permit.

In particular, the comment correctly observes that US Steel's current emission factors, as were listed in Attachment 3 of the Draft Revised Permit, and now listed in the Revised Permit, are identical to the subject emission factor limits. However, the comment then incorrectly assumes that this automatically places USS-GCW in compliance with the emission factor limits. This would only be the case if US Steel could rely on emission factors listed in Attachment 3 irrespective of other information that demonstrates that the factors understate actual emissions. The Revised Permit does not provide that US Steel can rely on the listed emission factors in this manner.[4] Attachment 3 simply provides a listing for informational purposes, as directed by the 2012 Order, of the "working" emission factors that US Steel is currently using to determine compliance with the subject limits.[5]

Moreover, in the language of this comment, the listed emissions factors in Attachment 3 of the Revised Permit are subject to "reality checks." In particular, as stack testing is practicable and reasonable for certain emission units, US Steel must confirm compliance with the emission factor limits through stack testing. As stack testing is not feasible or appropriate for certain other emission units, US Steel must

[4] In addition, the Revised Permit does not preclude the Illinois EPA or USEPA from pursuing US Steel if it was determined that an emission factor being used by US Steel understates actual emission and, considering credible evidence, an emission factor limit is likely being violated. As will be discussed later in this response, this is illustrated by Illinois EPA's current enforcement action against US Steel for violations of two sets of emission factors that US Steel is using for emissions of NOx and VOM from its Electrostatic Precipitator at the Basic Oxygen Furnace.

[5] A summary of the basis and support for these emission factors, as the 2012 Order directed the Illinois EPA to make publically available, was provided in Table 1 of the Statement of Basis.

confirm compliance with emission factor limits by review of relevant new information that becomes available, as now explicitly required by new Condition 5.13(c)(ii). As the Illinois EPA or USEPA determines that the review of specific emission factors by US Steel has been inadequate or further review is appropriate, new Condition 5.13(e) now provides a formal structure to require US Steel to undertake such review. These "reality checks" will provide assurance that US Steel uses appropriate emission factors on an ongoing basis to determine compliance with the subject emission limits.[6]

More generally, the comment appears to assume that the use of emission factors is intrinsically flawed because the emission factors listed in Attachment 3 of the Draft Revised Permit, and now the Revised Permit, are identical to the subject emission factor limits. While Attachment 3 is correctly characterized, the assumption that the permit is flawed is incorrect. US Steel has elected to proceed conservatively, continuing to use the highest permissable emission factors to demonstrate compliance with the subject emission limits. This is its prerogative. Moreover, based on the results of recent stack testing, US Steel could also use emission factors for certain units that are substantially below the applicable permit limits. For example, for the casthouse baghouse for the blast furnaces, based on the results of recent testing, US Steel could arguably use an emission factor that is about half the applicable emission factor limit and still not understate the actual emissions of this emission unit.[7] However, US Steel's exercise of its prerogative to use the highest permissible emission factor to demonstrate compliance with the subject limits, instead of a lower factor that more closely reflects the results of recent stack testing, does not show that the Revised Permit is flawed.

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[6] Indeed, as will be discussed later in this document, the Illinois EPA is currently engaged in the initial stage of possible enforcement against US Steel for violations of two sets of limits based on "reality checks" for the emission factors that were being used for those limits. The action involves the working emission factors that US Steel is using for the emissions of nitrogen oxides (NOx) and volatile organic material (VOM) from the electrostatic precipitator (ESP) that controls particulate emissions of the Basic Oxygen Furnace (BOF). In the Revised Permit that has been issued, this is now appropriately indicated in Attachment 3 by the notes that accompany the two emission factors that are at issue.

[7] For the casthouse baghouse, stack testing in January 2010 and March 2012 measured actual PM emissions that were 6 and 28 percent of the emission factor limit for PM/PM_{10}, 0.0703 pounds per ton of iron. Even if one doubled the higher test result, the resulting source-specific emission factor would only be 0.040 pounds per ton of iron.

Note, as related to its demonstration of compliance with the subject emission limits, it would be unsound for US Steel to simply rely on the emission rate measured during the most recent stack test, without applying some factor of safety to account for day-to-day variation in operation and emissions. During subsequent operation of a unit following the stack test, emissions should be expected to vary, with the actual rates of emissions potentially being both above and below the rate measured during the stack test. Indeed, the results of the two recent tests for the casthouse baghouse show such variation in emissions.

Moreover, as US Steel's obligation with respect to the subject emission limits is to address compliance with those limits, US Steel may use an emission factor that is higher than the actual emission rate, i.e., an emission factor that does not understate emissions. In this regard, US Steel's obligation with respect to the subject limits is different than its obligation when preparing its Annual Emission Report, in which it is required to provide data for the actual emissions of the USS-GCW.

3. The maximum emissions limits in the 2009 Permit, which address annual emissions, are simply the product of the emission factor limits, which are expressed in pounds per ton of production (e.g., ton of iron or steel), and USS-GCW's permitted annual production. Therefore, so long as USS-GCW does not exceed its permitted annual production, it *cannot* exceed any of its maximum emissions limits. As a result, the only "monitoring" necessary to demonstrate compliance with the maximum emissions limits is recordkeeping for the annual iron and steel production. In other words, the Draft Revised Permit would fail to require Periodic Monitoring of *actual emissions* in order to demonstrate compliance with the maximum emissions limits in the 2009 Permit. As such, the maximum emissions limits lack Periodic Monitoring and are not enforceable as a practical matter.

This comment does not show that the Draft Revised Permit would not provide Periodic Monitoring for the maximum emission limits. The comment accurately describes the way that the maximum emission limits were developed during the processing of the application for Construction Permit/PSD Approval 95010001. However, the comment overlooks the fact that if emissions exceed an emission factor limit, USS-GCW has violated that limit. If such a violation occurs, USS-GCW may also have violated the maximum emission limit depending on the actual level of production.[8] Thus, the Periodic Monitoring required for the maximum emission limits builds on top of the Monitoring for the emission factor limits. In this regard, it is noteworthy that this comment does not suggest an alternative approach to Monitoring for the maximum emission limits that would not rely on an emission factor or other value of the emission rate of an emission unit that addressed the day-to-day operation of the unit.

4. The defects that would remain in the CAAPP Permit for USS-GCW with the Draft Revised Permit are not mere technicalities. US Steel should implement meaningful Periodic Monitoring to assure itself, regulators, and the public that the USS-GCW is operating in compliance with applicable emission limits. The Illinois EPA should correct these defects in the Revised CAAPP Permit that is issued for USS-GCW.

This comment does not show that the CAAPP Permit for USS-GCW does not require meaningful Periodic Monitoring for the subject emission limits. The CAAPP Permit for USS-GCW appropriately addresses US Steel's use of emission factors as a necessary and appropriate mechanism to verify compliance with the subject limits. This is because stack testing is not feasible for many of the emission units that are subject to such limits. For the emission units for which stack testing is required, continuous emissions monitoring is not feasible or appropriate for such units as a means to address the subject limits. In these circumstances, the use of emission factors is appropriate to address emission limits, which limits were, in fact, developed using emission factors.

5. The Title V permits must require "Periodic Monitoring" to assure compliance with applicable requirements. In the 2011 Order, USEPA explained:

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[8] This is aptly illustrated by Illinois EPA's current enforcement action against US Steel for violations of two sets of emission factors that US Steel is using for emissions of NOx and VOM from the ESP at the BOF.

> With few exceptions, EPA does not recommend the use of emission factors to develop source-specific permit limits or to determine compliance with permit requirements.
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> 2011 USEPA Order at 14, *citing In the Matter of Tesoro Refining and Marketing Co., Martinez, California Facility*, Petition Number IX-2004-6, March 15, 2005 (Tesoro Order)

The Tesoro Order is of direct relevance to this case, because both involve considerable reliance on emission factors from or based on USEPA's *Compilation of Air Pollutant Emission Factors* (AP-42).

> An AP-42 emission factor is a value that roughly correlates the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant. AP-42 Fifth Edition, Volume I, Introduction. The use of these emission factors may be appropriate in some permitting applications, such as establishing operating permit fees. *Id.* EPA, however, has also stated that AP-42 factors do not necessarily yield accurate emissions estimates for individual sources. *See, In the Matter of Cargill, Inc.*, Petition IV-2003-7 (Amended Order) at 7, n.3 (Oct.19, 2004); *In re: Peabody Western Coal Co.*, CAA Appeal No. 04-01, at 22-26 (EAB Feb. 18, 2005). Because emission factors essentially represent an average of a range of facilities and of emission rates, they are not necessarily indicative of the emissions from a given source at all times; with a few exceptions, use of these factors to develop source-specific permit limits or to determine compliance with permit requirements is generally not recommended. *Id.*; AP-42 Fifth Edition, Volume I, Introduction. The District's reliance on the emission factors in making its monitoring decisions is therefore problematic.
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> Tesoro Refining Order, at 32.

This comment does not demonstrate that the role of AP-42 emission factors for certain emission limits is improper. First, the comment misrepresents the breadth of the USEPA's decision in the Tesoro Refining Order. That Order involved the use of AP-42 emission factors for VOC and PM for cooling towers at a petroleum refinery as a means to determine compliance with emission standards. Emissions of VOC and PM from cooling towers may reasonably be calculated indirectly from design and operational data for the cooling tower, including actual data for the VOC and solids content of the water circulating in the cooling tower that can be readily obtained from sampling the water.[9] As such, the Tesoro Refining Order did not address emission units whose emissions could not readily or practicably be determined through measurements, as is the case for many of the emission units at USS-GCW for which emission factors are being used to determine compliance with emission limits in the 2009 Permit.

More importantly, while citing to the 2011 Order, the comment ignores the USEPA's actual action in the 2012 Order. Stated simply, the 2012

[9] In this regard, the VOC and PM emissions of cooling towers at petroleum refineries can be determined by a form of modified material balance. This is not the case for the emission units at the USS-GCW that are subject to emission limits, as discussed in Footnote 21 of the Statement of Basis.

Order does not prohibit the use of emission factors in the 2011 Permit for USS-GCW.[10] Rather, the USEPA found that certain elements surrounding the use of emission factors were deficient, as specifically identified in the 2012 Order. These specific deficiencies have been addressed by the issuance of the Revised Permit, as discussed in Section III of the Statement of Basis that accompanied the release of the Draft Revised Permit and further discussed in this Responsiveness Summary.

6. In the Introduction to AP-42, USEPA warns of the risks in using emission factors to set limits or to attempt to determine compliance:

> Emission factors in AP-42 are neither EPA-recommended emission limits … nor standards …. Use of these factors as source-specific permit limits and/or as emission regulation compliance determinations is not recommended by EPA. Because emission factors essentially represent an average of a range of emission rates, approximately half of the subject sources will have emission rates greater than the emission factor and the other half will have emission rates less than the factor. …
> . . .
>
> [S]ource-specific tests or continuous emission monitors can determine the actual pollutant contribution from an existing source better than can emission factors. Even then, the results will be applicable only to the conditions existing at the time of the testing or monitoring. To provide the best estimate of longer-term (e. g., yearly or typical day) emissions, these conditions should be representative of the source's routine operations.
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> AP-42, Fifth Edition (Jan. 1995), Introduction at 2-3.[11]

This analysis applies to all emission factors, whether derived from AP-42 or from source-specific tests. Without a solid factual link between the emission factor and actual emissions, emission factors are not more than a rough estimate and are certainly not a basis for determining compliance with legally-binding limits.

This comment does not demonstrate a flaw in the 2011 Permit with respect to the role of emission factors. Rather the comment selectively parrots the advice of USEPA in the Introduction to AP-42. The comment also does not consider the implications of USEPA's advice for the CAAPP

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[10] It is noteworthy that the general approach taken in the 2011 Permit to determining compliance with permit limits on the amount of emissions, relying upon calculations using emission factors, has previously been upheld by USEPA. *See*, Order Responding to Petitioner's Request that the Administrator Object to Issuance of State Operating Permit, In the Matter of East Kentucky Power Cooperative, Inc. (December 14, 2009). In East Kentucky Power Cooperative, USEPA did not reject the use of established emission factors for the purpose of calculating emissions from certain coal handling operations and determining compliance with an applicable state emission standard. Indeed, for the Dale Power Plant, USEPA accepted the use of an emission factor and efficiency for the accompanying control device that were actually specified in the Title V permit for the plant.

The USEPA Order in the Matter of East Kentucky Power Cooperative is discussed in the 2011 Statement of Basis accompanying the preparation of the Draft of the 2011 Revised Permit. For example, see page 25 of the 2011 Statement of Basis.

[11] Available at http://www.epa.gov/ttn/chief/ap42/c00s00.pdf

permit for USS-GCW. Upon examination, it is apparent that the Illinois EPA has proceeded in accordance with the recommendations in the Introduction to AP-42.

For the emission units that are at issue for which stack testing is feasible, the permit generally requires source-specific testing. To accompany such testing, the permit also generally requires operational monitoring and work practices, accompanied by relevant recordkeeping, to verify that that the control equipment for those units is operated in a manner that is consistent with the operational conditions during emissions testing. In this regard, the Introduction to AP-42 does not advise against the use of data from source-specific stack testing to determine actual emissions. Rather, the Introduction to AP-42 cautions that such testing may not be sufficient by itself. Consideration must also be given to the operational conditions during stack testing. In the context of regulation and permitting, such consideration may logically lead to other compliance requirements that address the ongoing operation of the emission unit, as has been included in this permit.

For the emission units that are at issue for which stack testing is not feasible or practicable, the permit would directly rely on appropriate emission factors from AP-42 and other sources as the tool to quantify the emissions of those units. The Introduction to AP-42 acknowledges the need to use these types of emission factors in circumstances where stack testing is not feasible or practicable. Indeed, emission factors are recognized as a fundamental tool in air quality management and permitting. Accordingly, the Introduction to AP-42 generally supports the use of traditional emission factors for the subject emission units at the USS-GCW for which such factors would be used.[12]

> Emission factors and emission inventories have long been fundamental tools for air quality management. Emission estimates are important for developing emission control strategies, determining applicability of permitting and control programs, ascertaining the effects of sources and appropriate mitigation strategies, and a number of other related applications by an array of users, including federal, state, and local agencies, consultants, and industry. Data from source-specific emission tests or continuous emission monitors are usually preferred for estimating a source's emissions because those data provide the best representation of the tested source's emissions. However, test data from individual sources are not always available and, even then, they may not reflect the variability of actual emissions over time. Thus, emission factors are frequently the best or only method available for estimating emissions, in spite of their limitations.

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[12] The role of emission factors for emission units for which source-specific data cannot be obtained, e.g., emission units which cannot be tested, is also further discussed later in the Introduction to AP-42, "If representative source-specific data cannot be obtained, emissions information from equipment vendors, particularly emission performance guarantees or actual test data from similar equipment, is a better source of information for permitting decisions than an AP-42 emission factor. When such information is not available, use of emission factors may be necessary as a last resort. Whenever factors are used, one should be aware of their limitations in accurately representing a particular facility, and the risks of using emission factors in such situations should be evaluated against the costs of further testing or analyses." Introduction to AP-42, page 3.

Introduction to AP-42, page 1.

In summary, the Introduction to AP-42 actually supports the use of emission factors in the manner in which they have been used in the 2011 Permit. It is also fully consistent with the 2012 Order, as USEPA has not precluded US Steel's use of emission factors, both source-specific and non-source-specific, as tools to determine compliance with the subject emission limits.

7. The Draft Revised Permit would not contain *any* Periodic Monitoring to confirm compliance with any of the emission factor limits. The 2011 Permit does require infrequent stack testing for some pollutants at some of the subject emission units.[13] However, none of this Monitoring directly measures the emission factor limits. All of the testing in the 2011 Permit is based on standard USEPA test methods, which yield measurements of emissions in pounds per hour.[14] The Statement of Basis and the Draft Revised Permit are silent on how emissions measured in pounds per hour should be converted into emission factors in pounds per ton for purposes of determining compliance with the emission factor limits. Thus, the Draft Revised Permit would not provide Monitoring sufficient to ensure compliance with the emission factor limits.

This comment does not show that the Revised Permit would lack Periodic Monitoring for emission limits expressed in pounds per ton. The fact that stack tests do not directly measure emissions in pounds per ton does not show that Periodic Monitoring is not present for such limits. Likewise, the fact that the Illinois EPA has not explained how stack test results that are expressed in pounds per hour are converted to emissions in pounds per ton does not show that the CAAPP Permit for USS-GCW would be deficient.[15] Compliance with emission factor limits for emission units for which stack testing is performed can be readily verified by such testing by converting the results of those tests into an emission rate in pounds per ton and comparing that emission rate to the applicable limit.

8. "Emission factor limits" are based on the throughput of certain materials (e.g., iron pellets, iron, and steel). The conversion of emission test results in pounds per hour to pounds per ton is not straightforward and requires a simultaneous measurement of production, which is not otherwise measured by USEPA test methods, plus calculations and assumptions not set forth in the permit repository. However, the Draft Revised Permit would fail to specify how the throughput of these materials should be measured for each subject emission units and where in the process measurement will occur for each process or collection of processes to determine compliance with both

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[13] See the table accompanying these comments.

[14] The 2009 Permit requires stack testing to be conducted using, as appropriate USEPA Methods 1 through 4 coupled with the following USEPA Methods: Methods 5, 201 or 201A for PM and PM10; Method 6 for SO_2; Method 7 for NOx; Method 25 for VOM; Methods 7E or 19 for NOx; and Method 29 for lead.

[15] **Incidentally, emission rates, in pounds per hour, are not directly measured by USEPA test methods. Hourly emission rates are calculated from various measurements made during testing. Typically, the hourly emissions rates are calculated by multiplying the concentration of the pollutant in the exhaust as measured by one test method and the hourly exhaust gas flow rate as measured by other test methods.**

the "emission factor limits" and maximum emissions limits. Thus, the subject conditions remain unenforceable.

Notwithstanding the claim made by this comment, conversion of results of stack testing in pounds per hour to emission rates in pounds per ton is a straightforward matter. Such conversions are routinely made in conjunction with stack testing to address emission limits and emission standards that are expressed in pounds per ton and terms other than pounds per hour. USEPA has not found it necessary to develop a formal methodology by which data is measured. This is most likely because production data is of direct interest to sources. As such, this data is routinely collected by sources by methods that are well established and it is a simple matter to provide such data for the periods during which stack testing is conducted.

9. The conversion of emission data in pounds/hour to pounds/ton is not straightforward. For example, in Condition 7.5.6(a) of the 2009 Permit, is "steel" the amount of steel product sold based on invoices less inventory, the amount of liquid steel tipped from the ladle, the amount of steel cast, "net steel," or some other definition? If it is "net" steel, then what is "net" steel and how/where is it measured? Is the amount of steel used to calculate emissions from the BOF ESP the same as the amount of steel used to calculate emissions from argon stirring or slab ripping? Where and how are each of the materials measured? These fundamental questions, essential to convert results of stack tests in pounds/hour into emission rates in pounds/ton for comparison to the "emission factor limits," are not specified. Thus, they could be subject to dispute in enforcement actions, rendering the "emission factor limits" unenforceable as a practical matter.

The concerns identified in this comment do not make the subject emission limits in pounds per ton unenforceable. In the absence of an explicit provision to the contrary, the production of an emission unit, as needed to convert emissions in pounds per hour to emissions in pounds per ton, is the actual production without any adjustments. Similarly, if the production rate of a unit could be measured at either the inlet or outlet of the unit, in the absence of an explicit provision to the contrary, the production of the unit is determined from the larger rate. Moreover, the fact that certain provisions may be subject to different interpretations and a potential cause for disagreement in an enforcement action does not render such provisions unenforceable.[16, 17]

10. The approach taken in the Draft Revised Permit to determining compliance with maximum emissions limits (i.e., multiplying an emission

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[16] It is not uncommon for differences in interpretation to be a factor in enforcement actions. For example, a key aspect of USEPA's ongoing enforcement initiative for coal-fired utility boilers is the correct interpretation of the phrase "routine maintenance and repair" in the New Source Review Program under the Clean Air Act. The operators of certain coal-fired utility boilers argue that changes that were made to those boilers are "routine maintenance and repair" and therefore not modifications. The USEPA takes the opposing view. The existence of this disagreement has not prevented the USEPA from conducting enforcement actions against the operators of coal-fired utility boilers for failure to obtain the appropriate permits prior to various changes to those boilers.

[17] It is also noteworthy that Condition 7.5.6(a), as cited by this comment, does not contain any emission limits. It is simply a production limit.

factor that is representative of emissions during routine day-to-day operations by annual iron or steel production) does not include excess emissions that occur during startups, malfunctions and breakdowns, and thus underestimates actual emissions.

This comment fails to identify a flaw in the approach to annual emission limits in the Draft Revised Permit. This is because this comment overlooks the fact that the permit would require US Steel to separately account for periods of time, including periods of startup, malfunction and breakdown, when the established emission factors would understate actual emissions. *See*, new Condition 5.13(c), as well as existing Conditions 7.1.9(h)(ii), 7.4.9(i)(ii), 7.5.9(f)(ii) and (g) and 7.6.9(c)(ii) in the Revised Permit.

Also noteworthy is that this comment does not propose an alternative approach to the determination of emissions for purposes of determining compliance with the subject annual emission limits.

11. The Draft Revised Permit would require US Steel to update its emission factor(s) based on future emissions tests or future information from other sources, to assure that the procedure used to calculate annual emissions for comparison with the maximum emissions limits does not underestimate actual emissions. However, the Draft Revised Permit would not explain what happens if an updated emission factor exceeds its corresponding "emission factor limit." Would US Steel be required to install additional controls in order to reduce emissions sufficiently to come back into compliance with the "emissions factor limit?" Or would the "emission factor limit" be updated to match the new emission factor since emission factors and "emission factor limits" have the same values? Increasing the "emission factor limit" would change what is supposed to be an enforceable limit in pound/ton outside of a formal permit revision, and would necessitate an increase in the maximum emissions limit as well. This shows that the use of emission factors in the Draft Revised Permit is not actually designed to ensure compliance with emission limits, but rather to provide a calculation that demonstrates compliance, regardless of reality.

This comment does not demonstrate that the approach to the subject emission limits is flawed. Indeed, this comment largely answers itself to show that the approach in the permit is sound. As observed by this comment, an increase in an emission factor limit can only occur through an appropriate formal permit revision. An increase in a maximum emission limit, as would almost certainly accompany an increase in an emission factor limit,[18] can also only occur through an appropriate formal permit revision. Accordingly, the subject emission limits are enforceable. The simple observation that emission limits can potentially be changed through an appropriate, administrative process does not show that these limits are not enforceable. It shows exactly the opposite, i.e., the limits are enforceable until and unless they are changed.

[18] A permit proceeding to increase an emission factor limit would also need to address an increase in the associated maximum emission limit unless the increase in the emission factor limit would be accompanied by some other measure that would act to prevent an increase in permitted annual emissions.

The further question posed by this comment is what would occur if the updated emission factor for an emission unit is higher than the applicable emission factor limit, i.e., would the limit be revised or would US Steel be required to further control emissions to comply with the established limit? As an initial matter, if an "updated emission factor" for an emission unit is higher than the applicable emission factor limit, the emissions of the unit would be violating the emission factor limit.[19] The consequences that arise from such a violation would depend on the specific facts of the violation, including the technical nature of the violation and its circumstances. As those consequences would potentially involve formal enforcement action, possibly with involvement of the Illinois Attorney General's Office, it would not be appropriate in this document to speculate upon what those consequences would be in different circumstances.

12. The 2012 Order underscored the importance of adequate monitoring in light of environmental justice concerns pertaining to the Granite City area:

> EPA acknowledges that the immediate area around the USS-GCW facility is home to a high density of low-income and minority populations and a concentration of industrial activity, and thus raises potential environmental justice concerns. Focused attention to the adequacy of monitoring and other compliance assurance provisions is warranted in this context.
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> 2012 Order, page 6

However, the Draft Revised Permit does not increase or enhance Periodic Monitoring or provide any additional assurance that compliance with limits would be achieved. Rather, Illinois EPA sets out excuses for why additional Monitoring was not possible or warranted. Rather than address the environmental justice issue head on, Illinois EPA reframes it, arguing that it has no authority to impose additional emission controls, ignoring the USEPA mandate on adequacy of Monitoring. The issue is not whether emission limits should be added in the context of this CAAPP Permit. The issue is whether the Draft Revised Permit meets the Clean Air Act's requirement to contain Periodic Monitoring adequate to ensure compliance with emission limits. The Illinois EPA does not review the adequacy of proposed Monitoring within the environmental justice context, which it does have the authority to do, and which is required by Title V, but rather makes excuses for inadequate Periodic Monitoring in a different context. Statement of Basis at 11.

This comment mischaracterizes the 2012 Order[20]. USEPA acknowledged the location of the Granite City Works in a community that poses potential concerns related to environmental justice, as noted by this comment.

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[19] Whether an increase in an emission factor limit would directly result in a violation of a maximum emission limit would depend on USS-GCW's annual production. However, unless USS-GCW was operating at a very low level of production (as occurred in 2009), it is reasonable to expect that any significant violation of an emission factor limit would also result in a violation of the associated maximum emission limit.

[20] In fact, USEPA found in its 2012 Order responding to the 2011 Petition that, "[t]he Petitioner has not raised any specific claim regarding environmental justice, and has not identified any distinct environmental justice-related duty or responsibility that it believes Illinois has violated." 2012 Order, page 5.

However, USEPA did not suggest that this fact, by itself, necessitated a "wholesale" review by the Illinois EPA of the provisions for Periodic Monitoring in the 2011 Permit, as indicated in this comment. Rather the Order identified specific defects in the 2011 Permit, which would be addressed by the Draft Revised Permit, as has already been discussed.[21]

13. The Illinois EPA incorrectly asserts that additional Periodic Monitoring is not warranted due to the "nature" of the emission units and available methodology for measuring emissions, asserting that stacks are not present at subject emission units, thus limiting the ability to monitor them. Statement of Basis at 19. This not true.

This comment inaccurately characterizes the discussion in the Statement of Basis. This is particularly true as the comment suggests that the 2011 Permit would not require stack testing to verify actual emission rates as compared to the subject emission limits for those emission units where such testing is feasible and appropriate. In fact, the 2011 Permit does require such testing.

As a general matter, with respect to the subject emission units and emission limits, the Statement of Basis makes two different points, which this comment does not directly address, much less refute. The first point is that the 2011 Permit contains requirements for Periodic Monitoring for the subject emission units that are related to the regulatory emission standards that apply to these units. These "other requirements" for Periodic Monitoring include requirements for stack testing where feasible and appropriate. These other requirements also include various requirements that serve to assure that the emissions of the subject units are properly controlled on an ongoing basis, so as to provide assurance of a consistent rate of emissions. For example, see Statement of Basis, page 20.[22] Accordingly, the Revised Permit does not include additional stack testing requirements to specifically address the subject emission limits as appropriate stack testing is already required related to the applicable emission standards.

The second point is much simpler. Stack testing is not feasible for a number of emission units or "points of emissions" to which subject emission limits apply.[23] This is because these emission units or emission points are not equipped with stacks or vents that would make such testing feasible. The existence of such emission limits, for which compliance cannot be directly verified, is an unavoidable consequence

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[21] This comment selectively quotes the 2012 Order, so as to misrepresent the relevant finding by USEPA in the Order with respect to environmental justice concerns. In its entirety, the quoted passage reads, "EPA has thoroughly reviewed and evaluated the title V objections submitted by the Petitioner, discussed below. EPA acknowledges that the immediate area around the USS-GCW facility is home to a high density of low-income and minority populations and a concentration of industrial activity, and thus raises potential environmental justice concerns. Focused attention to the adequacy of monitoring and other compliance assurance provisions is warranted in this context. As explained below, where the Petitioner has demonstrated that the permit fails to assure compliance with applicable requirements, EPA is granting the petition." 2012 Order, page 6.

[22] Also refer to the 2011 Statement of Basis, pages 23 through 25, 64 through 68, 83 through 92, 96 through 103, and 104 through 106, and the 2011 Responsiveness Summary, Items 26 through 28.

[23] Most significantly, stack testing is not feasible to measure the "uncaptured emission" of the blast furnaces and the BOF furnaces, which are not captured by the control systems on these furnaces and are emitted directly to the atmosphere.

of the New Source Review Program. As a result, for these emission units, not only must compliance with the subject emission limits be determined using emission factors but those emission factors will not be source-specific emission factors that can be periodically verified through emission testing. For example, also see Statement of Basis, page 18.[24]

14. A large number of emission units subject to "emission factor limits" warrant additional Periodic Monitoring. The 2011 Permit does not require testing for several units with baghouses. Two other subject units emit through "vents" and could be tested using standard USEPA test methods. Any emission unit that can be controlled by a baghouse or has a stack or vent can be tested using standard USEPA test methods. The failure to require adequate Monitoring for these emission units plus other uncontrolled emission units is a serious flaw in the Permit.

This comment does not show that additional stack testing or other Periodic Monitoring should be required for USS-GCW. In particular, the 2011 Permit, as well as the Revised Permit that has now been issued, should be considered to require stack testing for all subject emission units that have control devices, as will be discussed later. Stack testing is also required, as is appropriate, for the emission unit without a control device that has discrete vents.[25]

Incidentally, the comment's claim that any stack or vent is amenable to emission testing using USEPA's standard methods is not correct. There are a variety of circumstances that preclude stack testing using standard USEPA test methods. These include the geometry of the vent or stack or the preceding ductwork, inconsistent exhaust gas flow rates during normal operation of the emission unit, very low or very high flow rates, and the presence of high levels of moisture.

15. The Draft Revised Permit would not require any actual Periodic Monitoring or stack testing to confirm compliance with proposed limits for two of the three emission units that emit lead, i.e., the roof monitor on the BOF Shop and desulfurization and hot metal transfer.

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[24] Also refer to the 2011 Statement of Basis, pages 23 through 25.

[25] This comment, as submitted, claimed that there are at least 12 subject emission units vented through a stack and equipped with an emission control device for which stack testing could be conducted but, by implication, is not required by the 2011 Permit. However, the Illinois EPA could not replicate the accounting performed by the commenter.

In fact, there are 18 subject emission units. There are eight subject emission units that do not have discrete vents for which testing is not feasible. In this regard, the caster molds for continuous casting are exhausted through general building ventilation, rather than discrete vents, so that stack testing is not feasible for these operations.

Stack testing should be considered to be required for all nine of the emission units that have control devices. As will also be discussed later, for the three material handling units, one stack test would be required for one of the units as selected by the Illinois EPA shortly before testing occurs. Given the similarity of these units, which all involve material handling and are all equipped with baghouses, the results of this test would be considered representative of all three emission units.

Finally, although not equipped with control devices, the spray chambers for the continuous casters are served by discrete vents and representative stack testing is required for one of these vents, as will be discussed further later.

This comment correctly observes that the 2011 Permit would not require stack testing for the roof monitor on the BOF Shop.[26] This is because emission testing is not feasible for this unit or emission point, where the uncaptured emissions of the BOF furnaces enter the atmosphere. However, this comment does not even discuss the feasibility of emission testing for the BOF roof monitor. Moreover, the 2011 Permit clearly requires Periodic Monitoring for the roof monitor. In particular, the 2011 Permit requires regular opacity observations for the emissions from the BOF roof monitor. *See*, Condition 7.5.7(e). These opacity observations serve to directly address the effectiveness with which emissions of particulate matter, including lead, from the BOFs are being captured on an ongoing basis. The 2011 Permit also requires Periodic Monitoring to address the ongoing operation of the ESP control system, which currently controls particulate emissions of the BOF, including lead. For example, the CAAPP Permit for USS-GCW, as issued in 2011, includes Work Practice requirements for the operation of the capture system and requirements for associated operational monitoring. *See*, Conditions 7.5.5-3(b), 7.5.6(h) and 7.5.8(d).

Contrary to the claim made by this comment, the 2011 Permit requires stack testing for lead emissions from Hot Metal Desulfurization and Hot Metal Transfer. *See*, Condition 7.5.7(b)(i). Since this emission unit is controlled by the Reladle/Desulfurization Baghouse, stack testing is practicable and is required for various pollutants, including lead. Other Periodic Monitoring, in addition to stack testing, is also required as this unit is subject to various requirements pursuant to the Iron and Steel NESHAP. Notably, refer to the Work Practices for this baghouse required by 40 CFR 63.7790(b). *See*, Condition 7.5.5-1. Also, refer to the Monitoring and Inspection required by 40 CFR 63.7830(b). *See*, Condition 7.5.8(a)(iii).

16. The Draft Revised Permit would only requires stack tests every 2 ½ years for the principal source of lead, the BOF ESP. The dust on window sills in a home following spring cleaning is not a fair indication of dust levels on those window sills during the rest of the year. Stack testing is like spring cleaning as an emission unit is tuned up in preparation for testing. Thus, testing on the specified frequency does not protect the community around USS-GCW.

This comment does not show that more frequent stack testing should be required for the BOF ESP. Assuming, for purposes of discussion, that the comment's observation about stack testing is correct, the conclusion of the comment is still faulty. That is, if an emission unit is tuned up in preparation for emission testing, the proper response by a regulatory authority is not to require more frequent emission testing. The proper response is to require the unit to be maintained in a tuned-up condition, consistent with its operational condition during emissions testing. This approach works to have the environment benefit from the tuned up condition of the emission unit. This is the approach that USEPA generally takes in its NSPS and NESHAP standards. It is also the approach that has been taken in the 2011 Permit for the BOF ESP. In particular, the CAAPP Permit for USS-GCW issued in 2011

[26] A "roof monitor" is a raised section of the roof on a building, which often straddles the ridge, that has openings or windows on the long sides to admit light or to allow the escape of hot air.

requires US Steel to properly maintain and operate the ESP between stack testing. Continuous opacity monitoring is also required for the BOF ESP to verify proper operation on an ongoing basis. *See*, Condition 7.5.8(a)(iv).

17. The frequency of testing of the BOF ESP for lead is a particularly egregious omission. This unit is permitted to emit 2,250 pounds of lead annually. Lead is likely to be highly variable in emissions from USS-GCW as it enters the facility in scrap and iron ore, which contain highly variable amounts of lead. Thus, infrequent stack testing and information from other facilities are unlikely to protect the community. Lead can and should be continuously monitored at the significant emission units at USS-GCW, particularly as air quality in the Granite City area is currently nonattainment for lead. [27]

This comment does not demonstrate that more frequent testing of the BOF ESP is needed to address compliance with the subject limits for lead that apply to this emission unit. As noted by the comment, the BOF Shop is of concern for emissions of lead due to the presence of the lead in the scrap metal that is charged to the BOF Furnaces, along with molten iron from the blast furnaces.[28] Based on recent testing for the BOF ESP conducted in July 2012, lead emissions are less than 20 percent of the applicable limit.[29] The proper operation of the ESP on an ongoing basis is addressed by continuous monitoring of the opacity of the emissions of the ESP, which is an indicator of proper operation for control of particulate emissions. Technology for continuous emissions monitoring for particulate matter, much less for lead, has not been developed for application to BOF furnaces.

The Illinois EPA shares the concern expressed in this comment about current air quality for lead in the Granite City area. The Illinois EPA is currently engaged in developing Illinois' State Implementation Plan (SIP) to bring the Granite City area, along with the other lead nonattainment area in Illinois, into attainment with the new lead air quality standard. For the various sources that are responsible for the high levels of lead air quality in these areas, this plan will include additional emission standards and control requirements for their emissions to bring these areas into attainment for lead.

18. The 2009 Permit contains "emission factor limits" and maximum emissions limits for 52 different emission unit/pollutant combinations.[30] The Draft Revised Permit would require actual stack testing to confirm emission factors for only about one third of the emission unit and pollutant

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[27] The Granite City area is currently nonattainment for lead, so that any increases in lead emissions from USS-GCW would exacerbate an existing health risk for the area.
[28] **The blast furnaces and the handling of molten iron at USS-GCW have not been identified as being of concern for emissions of lead.**
[29] **The lead emissions of the BOF ESP measured in stack testing conducted in July 2012 were 0.0376 pounds per hour, compared to the applicable limit of 0.1934 pounds per hour. *See*, Attachment in the Statement of Basis for the Draft Revised Permit.**
[30] **This comment, as submitted, incorrectly indicates that there are 54 emission unit and pollutant combinations. In fact, there are only 52 such combinations. The comment incorrectly counted Deslagging & Material Handling (Baghouse #1) twice. Likely, this was because its limits for PM and PM_{10} emissions appear twice in the 2011 Permit, once in Condition 7.1.6(b)(i) and again in Condition 7.6.6(a).**

combinations (16 out of the 52).[31] This testing is inadequate, as it occurs infrequently, ranging from only once over the life of the facility up to, at most, every 2 ½ years. A periodic stack test only tells one about emissions after the source has tuned up its unit before the test, but nothing about emissions during routine, day-in day-out operation. This is not adequate to protect the community in which USS-GCW is located.

This comment is not relevant to action that would be taken in the Revised Permit pursuant to the 2012 Order. In this Order, USEPA did not direct the scope of the stack testing required by the 2011 Permit to be expanded. In the 2012 Order, the USEPA addressed the specific issues posed by ABC's 2011 Petition to object to the 2011 Permit. These issues, as summarized in the 2012 Order, did not include the general scope of the stack testing required by the 2011 Permit, as now raised in this comment.

Incidentally, this comment also significantly understates the number of unit and pollutant combinations for which stack testing is required. The 2011 Permit requires stack testing for 30 of these combinations.[32, 33]

19. In 2011, the Illinois EPA may have intended to require additional stack testing for the blast furnace that is not clearly reflected in the 2011 Permit. Condition 7.4.7(c) adds SO_2, NOx and VOM to the pollutants for which stack testing is required at the casthouse and iron spout baghouses, pursuant to Condition 7.4.7(a). However, Condition 7.4.7(a) applies only to the casthouse. This creates an ambiguity that renders 7.4.7(c) unenforceable as a practical matter. It is not clear whether 7.4.7(a) applies to the iron spout. This is especially confusing as there are no NOx or VOM limits for the iron spout but Condition 7.4.7(c) requires testing of NOx and VOM at the iron spout baghouse. The Illinois EPA should revisit the relationship between Conditions 7.4.7(a) and 7.4.7(c).

This comment is not relevant to the current permit action, as explained above. Moreover, the comment involved another mistake made by this

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[31] In the table accompanying these comments, refer to the column labeled "stack testing required." "Yes," indicating monitoring is required, only appears for 16 emission unit/pollutant combinations.

[32] **Most significantly, the comment assumed that stack testing was not required by the 2011 Permit for subject emission limits for PM_{10} even though the numerical values of these limits are identical to the subject limits for PM that also apply. In these circumstances, the required stack testing for PM also serves to address the subject limits for PM_{10}. This is because emissions of filterable PM_{10}, as are addressed by the subject limits for PM_{10}, will never be greater than the PM emissions. This fact is specifically addressed in the asterisked note to Condition 7.5.7(b)(i).**

In addition, this comment overlooked the stack testing that is required for the spray chambers on the continuous casters, which is subject to limits for PM and PM_{10}. *See*, Condition 7.6.7(b).

[33] **The 2011 Permit should also be considered to require stack testing for four more unit/pollutant combinations. This is because it provides that stack testing is required on either the track hopper baghouse, bin floor baghouse or Baghouse #1, as will be specified by the Illinois EPA shortly before testing is conducted. This should be counted as a requirement for stack testing for six combinations, whereas the comment only counted this as two stack tests. This is because the testing for the selected emission unit would also be representative of the other two units. This is discussed in response to Comment 19 in the Responsiveness Summary prepared by the Illinois EPA to accompany the issuance of the 2011 Permit.**

commenter in the accounting of stack testing required by the 2011 Permit. The interplay of the conditions in the 2011 Permit addressed by this comment may not be immediately apparent, as shown by the submittal of this comment. However, upon examination, the relevant requirements of the 2011 Permit are clear. Stack testing for SO_2, NOx and VOM is required both for the casthouse baghouse and for the iron spout baghouse. What is missed by the comment is that Condition 7.4.7(a) requires stack testing for both the casthouse baghouse and the iron spout baghouse pursuant to the Iron and Steel NESHAP, 40 CFR 63.7820(a). This is because both of these baghouses are particulate control devices for the casthouse. Accordingly, the Iron and Steel NESHAP requires stack testing for both baghouses. Moreover, Condition 7.4.7(a) does not actually indicate that such testing is only required for the casthouse baghouse. Condition 7.4.7(a) generally addresses stack testing that is required for the casthouse.[34,35]

20. The remaining emission factors would not be tested or monitored at all. This is not adequate to protect the nearby community in which USS-GCW is located and as such, does not address environmental justice.

This comment incorrectly characterizes the circumstances of the emission units for which stack testing is not feasible or appropriate. While stack testing would not occur for these units, appropriate Periodic Monitoring is appropriately required for those units as needed to address proper operation of those units. In addition, for these emission units, US Steel would be required to review the emission factors that it uses to determine compliance with the subject limits on at least an annual basis to confirm the continued appropriateness of those emission factors.

21. For the emission unit/pollutant combinations that are not tested at all, new Condition 5.13(c)(ii) would only require that emission factors be reviewed and, if necessary, updated on at least an annual basis. Stack testing would not be required at USS-GCW to confirm the factors are representative of USS-GCW.

This is correct. As already discussed, stack testing is not feasible for many of the emission units to which the subject emission limits apply. These emission limits were developed from emission factors published by USEPA in AP-42 and other documents with the understanding that it likely would never be possible to verify the actual emission rates of those emission units with stack testing. In such circumstances, it is appropriate that the continued adequacy of the emission factors that are being used to verify compliance with those emission limits be confirmed by review of the types of information that were used in the original establishment of those limits.

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[34] The confusion exhibited in this comment is certainly understandable. US Steel's nomenclature for the two baghouses for the casthouse does not directly indicate that the iron spout baghouse is also a particulate control device for the casthouse.

[35] With regard to the iron spout baghouse, the comment correctly observes that Condition 7.4.7(c) requires stack testing for NOx and VOM, for which there are not emission limits. However, as the iron spout baghouse is subject to emission limits for SO_2 and stack testing for SO_2 is necessary, stack testing for NOx and VOM was also required. A change will not be made to the scope of the testing required by Condition 7.4.7(c) because the 2012 Order did not direct changes to the scope of required stack testing.

22. For the emission unit/pollutant combinations for which proposed new Condition 5.13(c)(ii) would require annual review, what constitutes adequate review? This ambiguity renders the condition ambiguous and hence unenforceable as a practical matter. Further, review is not a replacement for nor equivalent to Monitoring, which is required to assure compliance. This lax provision is not adequate to ensure compliance with emission limits. It also is not reasonable given the nearby high density of low income and minority populations who will be exposed to emissions that are not monitored at all.

This comment does not demonstrate that new Condition 5.13(c)(ii) would be unenforceable. This is because the comment ignores new Condition 5.13(e), which now provides a formal mechanism for the adequacy of US Steel's periodic review of emission factors pursuant to Condition 5.13(c)(ii) to be subject to oversight by the Illinois EPA, as well as USEPA. New Condition 5.13(e) would set forth a formal procedure to address potential circumstances in which US Steel should conduct further review of the particular emission factors that it is using for certain limits. It requires US Steel to conduct a further review of specific emission factors being used for particular emission unit(s) within 45 days of written notification from the Illinois EPA or USEPA that circumstances are such that further review is needed for specific emission factor(s). *See*, Statement of Basis, pages 25 through 26.

23. Moreover, for the maximum emission limits, unlike the provisions for the emission factors, the Draft Revised Permit would not require any future action or review.

This comment does not suggest specific further action or review that should be required by the Revised Permit relative to the maximum emission limits. Moreover, it is not apparent what such review or action would entail. This is because the Revised Permit cannot legally provide for periodic review of the subject emission limits, since these limits were established in a construction permit.[36]

More importantly, as already discussed, the Draft Revised Permit would require US Steel to appropriately review the current emission factors that it uses to determine compliance with the subject emission limits. As acknowledged in another comment, US Steel is using emission factors to determine compliance with the maximum emission limits, as well as the emission factor limits. Accordingly, the requirements in the Draft Revised Permit for review of emission factors would serve to address the appropriateness of emission factors relative to both emission factor limits and maximum emission limits. In other words, US Steel need not conduct separate reviews of the "working" emission factors

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[36] These emission limits were originally established in Construction Permit/PSD Approval 95010001. As these limits originated in a construction permit, they are "Title I" conditions. Their authority ties back to provisions in Title I of the Clean Air Act, as well as to state provisions for construction permits. Thus, changes to the subject limits, which must necessarily be contemplated in conjunction with any review of these limits, would need to be made in accordance with relevant "Title I provisions," and not under Title V of the Clean Air Act. *Accord, In the Matter of East Kentucky Power Cooperative, Inc., Hugh L. Spurlock Generating Station, Maysville, Kentucky*, Petition Number IV-2006-04, (August 30, 2007) (acknowledging USEPA's general policy to not object to a title V permit due to concerns over BACT determinations made long ago in a separate permitting process).

that it is using to relative to the emission factor limits and to the maximum emission limits.

24. The 2012 Order requires the Illinois EPA to "…provide supporting documentation for the accuracy and appropriateness of those emission factors, such as historical source test data or other available information." 2012 Order at 12. The Order specifically notes that the 2011 Permit did not indicate whether "the emission factors are indicative of the emissions from USS-GCW or an explanation of why use of the emission factors is adequate to assure compliance with the emission factor and maximum annual limits." 2012 Order at 11. The repository still does not contain this critical information for most of the subject emission units.

The repository for the Draft Revised Permit includes the information specified by the 2012 Order. In particular, for the subject emission units at the USS-GCW for which stack testing has been performed, the repository includes the reports for those tests. The repository also includes other supporting documentation for the current emission factors that US Steel is using to determine compliance with the subject emission limits. This information is summarized in the Statement of Basis that was prepared by the Illinois EPA to accompany the Draft Revised Permit. This Statement of Basis also explains why emission factors are an appropriate and necessary mechanism to determine compliance with the subject emission limits.

25. Most of the current emission factors were calculated from AP-42 and an unsupported capture and/or control efficiency, or an emission inventory and an unsupported capture and/or control efficiency that have no nexus with USS-GCW. The material in the repository for the Draft Revised Permit contains no evidence that these emission factors and this calculation procedure yield emissions representative of USS-GCW.

This is not correct. While most of the emission factors were originally developed from emission factors from AP-42, as generally observed by this comment, stack testing now has been conducted for many of the subject emission units for which testing is feasible. The material in the repository includes information for these stack tests. The repository also includes other information describing the basis for the emission factors that US Steel is currently using.

26. Many of the current emission factors were calculated from published emission factors, adjusted based on capture and control efficiency. However, there is no way to determine the origins and/or accuracy of the capture and control efficiencies used in the calculations. Sources of information were not cited. No nexus with USS-GCW is identified. My calculations suggest that most of the control efficiencies were back-calculated from emission factors in pounds/ton, emission limits in tons/year, and production limits.

For most emission units that are subject to limits, the efficiencies that were originally used in the development of emission factors are now no longer relevant. This is because stack testing is required for emission units that are equipped with control devices and this testing will verify the adequacy of current emission factors. Moreover, all recent stack tests for the subject emission units for pollutants that

are controlled show emissions are within the subject emission limits with ample compliance margins.

The only emissions units or "emission points" for which the original capture efficiencies are relevant are uncaptured emissions from the blast furnace casthouse and uncaptured emissions at the roof monitor of the BOF shop. This is because stack testing is not feasible for these emission units. For these units, the values for these efficiencies used in the original development of emission factors continue to be reasonable values that are consistent with general engineering practice for the capture systems that are used to comply with the subject limits. Because the efficiencies of capture systems, as well as control systems, for particulate are not commonly measured, engineering data must be used for these efficiency values.[37] The value of capture efficiency for the blast furnace casthouse, 95 percent capture, is considered to be a conservative value for the level of capture that results from compliance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Manufacturing Facilities, 40 CFR 63 Subpart FFFFF. Based on the level of opacity routinely observed from the casthouse during tapping of a blast furnace, it is probable that the capture efficiency at the casthouse is greater than 95 percent. The capture efficiencies used for the BOF furnaces, i.e., 95 percent for charging, 99.9 percent for refining and 95 percent for tapping, are believed to be reasonable values for the current configuration of the capture systems on these furnaces and compliance with the NESHAP, 40 CFR 63 Subpart FFFFF.

27. As described in the Attachment in the Statement of Basis, many of the emission factors in the Draft Revised Permit are based on USEPA's *Compilation of Air Pollutant Emission Factors* (AP-42). This is not a reasonable basis for setting emission limits or assuring compliance with limits. USEPA warns that AP-42 emission factors are not suitable for setting permit limits or determining compliance. The Introduction to AP-42 explains that AP-42 emission factors "…are simply averages of all available data of acceptable quality, and are generally assumed to be representative of long-term averages for all facilities in the source category (i.e., a population average)."[36] The Introduction to AP-42 goes on to explain that

> [e]mission factors may be appropriate to use in a number of situations such as making source-specific emission estimates for areawide inventories…Use of these factors as *source-specific permit limits* and/or as *emission regulation compliance determinations* is not recommended by EPA. Because emission factors essentially represent an average of a range of emission rates, approximately half of the subject sources will have

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[37] As generally discussed in the Statement of Basis, emission standards for particulate emissions generally are set in terms of the mass of emissions from the control device. The effectiveness of emissions capture is generally addressed by standards for the opacity of uncaptured emissions or the presence of visible emissions. Compliance with standards set in these terms can be verified without need to conduct measurements for capture efficiency or control efficiency. In addition, standards that are set in these terms accommodate a source's implementation of measures that reduce the generation of particulate emissions, which would not necessarily be the case if standards were set in terms of capture efficiency or control efficiency.

[36] *See* AP-42, Introduction, p. 1, available at http://www.epa.gov/ttn/chief/ap42/c00s00.pdf.

emission rates greater than the emission factor and the other half will have emission rates less than the factor. (emphasis added)

Twenty-four out of 52 of the current emission factors are based on AP-42.[39] Thus, the Revised Permit would use emission factors to determine compliance with almost half of the "emission factor limits," even though USEPA expressly recommends in AP-42 that its emission factors not be used in this way.

As already discussed, notwithstanding the claim made by this comment, the manner in which US Steel must use emission factors to determine compliance with the subject emission limits is fully consistent with the guidance provided by USEPA in AP-42.[40] For the eight emission units that are at issue for which stack testing is not feasible or practicable, the permit would properly rely on appropriate emission factors from AP-42 and other sources as the tool to quantify the emissions of those units. US Steel would have to periodically review the appropriateness of the emission factors that it is using for these units. In addition, for the ten emission units for which stack testing is feasible, including units for which emission factors were originally developed from AP-42, the appropriateness of the emission factors that US Steel is using would be subject to confirmation with stack testing on those units.

28. Only ten of the 24 current emission factors based on AP-42 have been confirmed by stack tests. This tells us nothing about the other 14 emission factors based on AP-42, or about emissions during routine operation of the tested emission units. Further, this is not comforting even for these ten confirmed emission factors as a single stack test is not adequate to demonstrate continuous compliance, especially as the BOF furnaces use scrap metal as a feedstock, which is highly variable in composition, and at a facility which makes a range of products over time. This is a key issue for lead, for example, which enters USS-GCW in the scrap metal. As discussed in a previous comment, a stack test is not necessarily indicative of emissions on non-test days, i.e., during normal rather than the conditions during testing. Stack tests are set up for optimum operation and yield no information about routine, day-in and day-out compliance or periods of startup, malfunction and breakdown.

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[39] See the table accompanying this comment, in which emission factors from AP-42 are colored in light blue.

[40] **As observed by USEPA, in the Introduction to AP-42, "Emission factors and emission inventories have long been fundamental tools for air quality management. Emission estimates are important for developing emission control strategies, determining applicability of permitting and control programs, ascertaining the effects of sources and appropriate mitigation strategies, and a number of other related applications by an array of users, including federal, state, and local agencies, consultants, and industry. Data from source-specific emission tests or continuous emission monitors are usually preferred for estimating a source's emissions because those data provide the best representation of the tested source's emissions. However, test data from individual sources are not always available and, even then, they may not reflect the variability of actual emissions over time. Thus, emission factors are frequently the best or only method available for estimating emissions, in spite of their limitations." Introduction to AP-42, page 1.**

This comment does not show that stack tests are improperly relied upon as the means to authoritatively measure the emission rate of a subject emission unit. This function or role of stack testing in this regard is well established. In addition, as already discussed in response to a previous comment, stack testing may not be sufficient, by itself, to confirm ongoing compliance.[41] Consideration must also be given to the operational conditions during stack testing and requirements for ongoing operational monitoring and recordkeeping for an emission unit and its emissions controls. In this regard, the use of control equipment and the margin of compliance measured during stack testing are relevant considerations for the nature of the ongoing monitoring that is appropriate for an emission unit. Based on the nature of an emission unit and its control equipment, consideration must also be given to separately accounting for periods of time, including periods of startup, malfunction and breakdown, when the emission rates measured during stack tests or established emission factors would understate actual emissions. The Illinois EPA considered these factors during the enhancement of Periodic Monitoring for the subject emission units as part of the issuance of the 2011 Permit.

29. Thirteen of the current emission factors are based on single stack tests conducted sometime between 1981 and 1993, i.e., 20 to more than 30 years ago. The Illinois EPA makes no attempt in the repository to demonstrate that a single, decades-old stack test is representative of current operations.

This comment correctly observes that the Illinois EPA has not made any attempt to demonstrate that the emission rates measured in old stack tests are representative of current operation. This is because these emission rates have been or will be verified by contemporary stack testing. As observed by the next comment, this testing may show that the results of these past tests now understate the actual emissions of pollutant(s) by a subject emission unit. This would necessitate appropriate action on the part of the Illinois EPA and US Steel to assure that the unit's actual emissions of those pollutant(s) are properly addressed.

30. The concern that dated stack tests are not representative of current emissions is heightened by a recent stack test in April 2012. That test failed to confirm an emission factor that was developed from one of the stack tests that is now over 20 year-old. The emissions measured under the most favorable conditions to USS-GCW (i.e., in a scheduled stack test) were higher than the current emission factor, showing that the established "emission factor limit" and the maximum emissions limit, in tons/year, are exceeded. US Steel's current NOx emission factor for the BOF ESP exhaust is 0.0389 pounds/ton steel, based on an August 1993 stack test, which is also the NOx "emission factor limit" for this unit. In April 2012, a stack test for the BOF ESP measured NOx emissions of 0.1273 pounds per ton of steel. Thus, depending on the level of annual production, NOx emissions could have exceeded the maximum emissions limit, 66.63 tons per year, by a factor of three.

In fact, this comment does not show that there is a deficiency in the Periodic Monitoring for the subject emission limits. Rather, it shows

[41] Indeed, elsewhere this commenter argues that more frequent stack testing should be required.

that that the CAAPP Permit for USS-GCW, as previously issued in 2011, included appropriate Monitoring for the subject limits. This is because Periodic Monitoring required by that permit has served to identify noncompliance with some of the subject emission limits.

With respect to the particular circumstances addressed by this comment, as a consequence of recent stack testing of the BOF ESP, parallel to the processing of the Revised Permit, enforcement staff at the Illinois EPA have been independently pursuing claims that NOx emissions from the ESP at the BOF are in excess of the applicable emission limits.[42] While the NOx emission rates measured in the stack test in April 2012, as well as a more recent stack test in July 2012, exceed the NOx emission factor as previously provided to the Illinois EPA by US Steel, US Steel has not yet formally notified the Illinois EPA of a new, updated emission factor that it will be using for the NOx emissions of the BOF ESP. This action will now need to be coordinated with the ongoing enforcement action.

31. Other emission factors for the BOF ESP are based on the single August 1993 stack test, including factors for PM, PM_{10}, and CO. Are the current emission factors for these pollutants representative of current operations?

As will be discussed later in more detail, based on the results of recent stack tests, the current emission factors for PM/PM_{10} and CO for the BOF ESP do not understate actual emissions. Thus, they may be considered representative of current operation for purposes of demonstrating compliance with the subject emission limits.

32. The Statement of Basis, Footnote 31, indicates that US Steel has submitted a proposed compliance schedule for NOx and VOM emissions from the BOF ESP and the Illinois EPA is processing this submittal as an application for a significant modification of the CAAPP permit, separate from this Draft Revised Permit. However, the Statement of Basis is silent on whether this modification would also address PM, PM_{10}, and CO from the BOF ESP as well as emissions from related emission points, such as the BOF roof monitor.

As part of issuance of this Revised Permit, it is not appropriate for the Illinois EPA to publically speculate on the eventual scope of the significant modification to the Revised Permit that is anticipated at some time in the future to address US Steel's submittal of a Compliance Schedule. As observed by this comment, that modification will be a separate permit action. The full scope of the modification that is being proposed will be formally announced when the Illinois EPA releases a draft Significant Modification of the CAAPP Permit for USS-GCW for public review and comment.

33. The current VOM emission factor for the BOF ESP exhaust being used by US Steel, which is based on the AIRS Inventory, is 0.006 pounds/ton steel. This factor was not confirmed by stack testing in July 2012,

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[42] On November 30, 2012, the Illinois EPA initiated the enforcement process by issuing a Violation Notice alleging violations at the BOF by US Steel. Information gathering and exchanges of information have begun in the enforcement process but are only yet in the initial stages of confirming the existence of a violation and what changes, if any, will be required to the NOx emission factor for the ESP at the BOF.

which measured 0.0153 pounds/ton steel. Thus, VOM emissions would exceed the applicable maximum emission limit, 10.74 tons/year, by about a factor of three.

The Illinois EPA agrees with this comment. As already discussed, a problem with US Steel's VOM emission factor for the BOF ESP exhaust, and compliance with the applicable limits for VOM, was revealed by stack testing required by the 2011 Permit (Condition 7.5.7(b)). In this regard, the Illinois EPA is engaged in the initial stages of enforcement, with a violation notice issued to US Steel in late 2012 for exceedance of the applicable VOM limits.

34. Besides the VOM emission factor for the BOF ESP, thirteen other current emission factors, are based on the AIRS Emission Inventory and other similar inventories.[43] These inventories have no nexus whatsoever with USS-GCW. The repository contains no support linking these factors to USS-GCW. Other emission factors are based on the AIRS Emission Inventory. Are they similarly flawed? The Illinois EPA has not provided evidence that any of the emission factors based on generic emission inventories are applicable to USS-GCW.

There is an adequate nexus between USS-GCW and the emission factors that originated in emission inventories for the emission factors for which such a nexus is needed. In this regard, a link to these historical inventories is not needed for emission units for which stack testing has been or will be conducted pursuant to the 2011 Permit. For these emission units, the appropriateness of the emission factors that US Steel is currently using has been and will be authoritatively confirmed by stack testing.[44] For other emission units, for which stack testing is not feasible, a nexus exists as USS-GCW is a steel mill and emission factors for steel mills were the basis of the emission factors. As observed by USEPA, "…emission factors are frequently the best or only method available for estimating emissions, in spite of their limitations." AP-42, Introduction, page 1. Accordingly, as emission factors continue to be the only basis to determine emissions of these emission units, a sufficient nexus exists, recognizing that information may become available in the future, which would provide "a reality check," and potentially necessitate updates to these factors.[45]

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[43] See the table accompanying this comment. In this table, emission factors for PM and PM_{10} are counted separately even when they are based on one factor in an inventory.

[44] Other than for VOM emissions of the BOF ESP, for emission factors that originated in inventories, for those emission units for which stack testing has been conducted, the appropriateness of the current emission factors being used by US Steel has been confirmed by such testing, which shows a substantial margin of compliance:
BOF ESP (Lead) - Testing in July 2012, measured emission rate approximately 20 percent of the current factor, i.e., 0.0376 compared to 0.0.1934 pounds/ton steel.
Desulfurization/Hot Metal Transfer Baghouse (Lead) - Testing in May 2012, measured emission rate approximately 15 percent of the current factor, i.e., 0.00167 compared to 0.0133 pounds/hour.
Desulfurization/Hot Metal Transfer Baghouse (VOM) - Testing in May 2012, measured emission rate approximately 20 percent of the current factor, i.e., 0.000187 compared to 0.001 pounds/ton iron.

[45] While the Illinois EPA can speculate on the underlying basis for some of these emission factors, as follows, the Illinois EPA is not prepared to take responsibility for supporting or reevaluating the emission factors that USEPA has developed:
Blast Furnace Charging (PM/PM10) - The factor from the AIRS Inventory was likely derived from USEPA studies of fugitive emissions from handling of bulk materials,

35. Supporting documentation is missing for the PM/PM_{10} emission factors for the BOF additive system, the flux conveyor operations, iron pellet screening, ladle metallurgy material handling and slag pits. The material in the repository indicates that these emission factors were calculated using the following equation for particulate emissions from batch and continuous drop of bulk materials from AP-42, page 13.2.4-4:

$$EF = k\ (0.0032)\ (U/5)^{1.3} \div (M/2)^{1.4}$$

where k is the particle size multiplier, U is the mean wind speed, and M is the material moisture content. For three of these emission units, the BOF additive system, flux conveyor operations and iron pellet screening, some supporting documentation is provided for the values for the particle size multiplier, mean wind speed, and material moisture content. No documentation is provided for the ladle metallurgy material handling and the slag pits. There is also no information in the repository justifying the values of these parameters that were used to calculate the PM/PM_{10} emission factors. AP-42 provides ranges of values for these parameters, but it is not known whether the values used in the calculations were selected from the ranges in AP-42, were determined from on-site measurements, or were derived from another source. This information is needed to verify that the values used are representative of USS-GCW and these factors were calculated correctly.

The information that is requested by this comment is not needed for the BOF Additive System, Flux Conveyor Operations and Ladle Metallurgy Material Handling. For these units, the 2011 Permit requires stack testing, which will serve to verify whether the baghouses on these units comply with the subject emission rates. In this regard, the 2011 Permit requires stack testing for PM/PM_{10} for one of these emission units by November 13, 2013. *See*, Condition 7.1.7(b). The level of uncontrolled emissions, as affected by factors such as the moisture of material, will be a consideration when the Illinois EPA decides which of these units will be tested to verify the adequacy and representativeness of the factors for these units.

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considering the iron ore, coke and limestone that are handled in the charging systems at the top of the blast furnaces.
BOF Roof Monitor (Lead) - This factor was likely developed from the factors for the uncontrolled or controlled emissions from the different phases of operation of the BOF furnaces, i.e., charging, refining and tapping, using engineering assumptions for the capture efficiencies.
Caster Molds (NOx) - This factor from the AIRS Inventory likely represents the NOx emissions, expressed in pounds per ton of steel, from firing of natural gas to preheat components of the continuous caster prior to the introduction of molten steel.
Caster Molds (PM/PM_{10}) - This factor from the EIS Inventory was likely derived from the factor for teeming (i.e., the process of pouring steel into individual molds to make ingots). The continuous casting process, with its shrouding, is much more contained than teeming, which is an older process that was replaced by continuous casting. In this regard, the PM factor for continuous casting is an order of magnitude lower than the factor for teeming, 0.006 pounds/ton compared to 0.07 pounds/ton.
Slab Cutoff and Slab Ripping (PM/PM10) - This factor from the EIS Inventory likely represents the emissions from the firing of natural gas, expressed in pounds per ton of steel processed, that accompanies the slab cutoff and ripping processes.

For iron pellet screening and slag digging, which cannot be tested, upon further consideration in response to this comment, the Illinois EPA will be requiring US Steel to conduct further review to determine whether these factors should be updated. Upon closer examination of the data that US Steel provided for the origin of the factor for slag digging, the particle size multiplier used in the development of this factor, 0.35, is now recognized as being of concern. This is because the particle size multiplier for PM_{10} was used, instead of the multiplier for PM.[46] (As such, US Steel's current emission factor may appropriately address emissions of PM_{10} but not PM.) The value for material moisture content of slag, 0.92 percent, is consistent with what would be expected for slag.[47] The value for mean annual wind speed, 9.4 mph, is consistent with general data for the St. Louis area. Accordingly, the values for material moisture content and mean wind speed used by US Steel are likely representative of the slag digging operation at USS-GCW. For iron pellet screening, US Steel could not find the documentation for the original development of the emission factor. In addition, a concern now exists about the particle size multiplier used in developing the emission factor for pellet screening because of the multiplier used for slag digging.

36. Relevant production data is missing for the PM/PM_{10} emission factor for the BOF ESP exhaust. The stated basis for this factor is the average of the results of testing in March 1989, July 1990, and August 1993. These results are provided in the repository but lack the associated production data necessary to convert the measured emission rates in pounds/hour to pounds/ton steel. This information is needed so these emission factors can be checked to verify that they were calculated correctly and do not understate actual emissions.

Production data, as requested by this comment, is not needed to verify the adequacy of these emission factors as they have been directly verified by the recent emission testing for the BOF ESP. The emission rates measured by stack testing in October 2009 and July 2012 were approximately 25 percent of the current factor, i.e., 0.0364 and 0.035 pounds/ton steel, respectively, as reported in the Statement of Basis, compared to a factor of 0.16 pounds/ton.

As noted by this comment, production data was not necessarily included in the reports for historical stack tests. In such cases, if such data is not otherwise available to calculate an emission factor from the test results, an engineering assumption for the production rate during the test must be made using general knowledge about the tested emission unit. Based on knowledge about how a unit is typically operated, one might use a value that represents the maximum capacity of the unit, e.g., 90 or 95 percent of the rated capacity of the unit. If a unit operates at a steady rate, it might be more appropriate to use a value for the production rate that is calculated from annual production.

In any case, production data is now required to be included in the reports for stack tests. Pursuant to Condition 8.3.6(g) of the 2009

[46] The particle size multiplier is a fixed value from AP-42, which is used to convert emission rates in terms of total suspended particulate to emission rates in terms of PM and PM_{10}.

[47] The value is within the ranges for moisture content of slag provided in Table 11.2.3-1 in AP-42, Fourth Edition.

Permit, the test reports that are submitted to the Illinois EPA must now include the operating conditions at the time of testing.

37. Production data is also missing for the NOX and CO emission factors for the BOF ESP exhaust. The stated basis for these emission factors is an August 1993 emissions test. Without information for steel production data during the test, the NOX and CO emission factors for the BOF ESP exhaust cannot be checked to verify that they were calculated correctly and do not understate actual emissions.

Again, the adequacy of these emission factors is directly "verified" by the recent emission testing for the BOF ESP. The CO emission rate measured by stack testing in July 2012 was approximately 40 percent of the current factor, i.e., 3.761 pounds/ton of steel compared to a factor of 8.993 pounds/ton. The NOx emission rate measured by stack testing in April 2012 exceeded the current emission factor by a factor of about three, i.e., 0.1273 pounds/ton of steel compared to a current emission factor of 0.0389 pounds/ton.[48] As already discussed, for NOx, the Illinois EPA has begun enforcement because the NOx emission rate from the BOF ESP measured during recent stack testing is higher than the applicable emission factor limit.

38. Some supporting documentation is missing for the PM/PM_{10} emission factor for the spray chambers on the continuous casters. The stated basis for this factor is a 1981 emissions test. The 1981 test was conducted when a baghouse was used to control spray chamber emissions, so the results were adjusted to remove baghouse reductions given that the baghouse was subsequently removed from the source around 1990. Neither the 1981 spray chambers baghouse exhaust stack test results, nor the associated steel production data necessary to convert the PM/PM_{10} emission rate measured during the test from pounds/hour to pounds/ton of steel produced, nor the basis for assuming the former baghouse removed 99.3 percent of the PM and PM_{10} are provided in the material at the repository. Without this information, the PM/PM_{10} emission factor for the spray chambers cannot be checked to verify that it was calculated correctly and does not understate actual emissions.

The information requested by this comment is not needed to verify the adequacy of this emission factor. The adequacy of this emission factor will be verified by stack testing that is required by the 2011 Permit. Condition 7.6.7(b) requires that testing for PM/PM_{10} be conducted for one of the spray chambers by November 2013.[49]

39. The PM/PM_{10} emission factor for the slag pits is not supported by the material provided at the repository and may understate actual emissions. This material indicates that this emission factor was calculated from USEPA's *Assessment of Atmospheric Emissions from Quenching of Blast Furnace Slag with Blast Furnace Blowdown Water* (EPA-600/2-84-072) and AP-42. The emission factor, 0.00417 pounds of PM/PM_{10} per ton of iron, is the sum of factors for slag quenching (0.0026 pounds/ton) and slag digging (0.00157 pounds/ton). However, the PM emission factor for slag quenching in EPA-600/2-84-072 range from 0.00419 pounds/ton iron (low

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[48] Exceedances of the established limits for NOx were confirmed by a subsequent stack test in July 2012, which measured NOx emissions of 0.1535 pounds per ton of steel.

[49] The fact that stack testing is required for the spray chambers by the 2011 Permit is not indicated in the Statement of Basis. The Illinois EPA regrets this error.

temperature quenching using mill service water) to 0.041 pounds/ton iron (high temperature quenching using blast furnace blowdown water). The repository does not indicating whether USS-GCW conducts low or high temperature slag quenching and whether service water or blast furnace blowdown water, or both are used. Moreover, even under the most favorable configuration (i.e., low temperature quenching using mill service water), the PM/PM_{10} emission factor for slag quenching, alone, is more than the emission factor limit for the slag pits.

The contribution to this emission factor from slag digging was calculated using the equation for particulate emissions from batch and continuous drop operations in AP-42, page 13.2.4-4. However, the material in the repository does not provide information regarding the particle size multiplier, mean wind speed, and material moisture content values used in the calculation or justification for the values used. Thus, it was not possible to verify that the contribution to the emission factor from slag digging was calculated correctly. If it was, then the PM/PM_{10} emission factor for the slag pits should range from 0.00576 pound/ton (0.00419 + 0.00157) to 0.04257 pound/ton (0.041 + 0.00157). Hence the PM/PM_{10} emission factor for the slag pits may understate emissions by as much as an order of magnitude.

This comment does not show that there is a flaw in the quenching component of the PM/PM_{10} emission factor for the slag pits. US Steel quenches low temperature or "hard" slag, i.e., slag that has solidified prior to quenching, using mill service water. This configuration for slag quenching is appropriately represented by the lower PM/PM_{10} emission factor from EPA-600/2-84-072A. US Steel then adjusted this emission factor downward to account for USS-GCW's actual rate of slag generation and the accompanying decrease in the amount of water used for quenching.[50] This adjustment yields an emission rate for quenching of 0.0026 pounds PM/PM_{10} per ton of iron.[51] The concern about the calculation for the component of the PM/PM_{10} emission factor for the slag pits for slag digging, 0.00157 pounds per ton of iron, has already been discussed in response to an earlier comment.

40. The SO_2 emission factor for the slag pits, 0.01 pounds/ton iron, is not supported by the material provided at the repository and may understate actual emissions. This material at the repository indicates that this emission factor was also calculated from EPA-600/2-84-072. The SO_2 emission factors for slag quenching cited in this document vary, from 0.017 to 0.043 pound/ton iron, depending on the configuration. As noted above, the material provided at the repository does not indicate the configuration for slag quenching at USS-GCW. Even under the most favorable configuration (high temperature quenching using blast furnace blowdown water), the SO_2 emission factor for the slag pits understates emissions by roughly a factor of two.

This comment does not show that there is a flaw in the SO_2 emission factor for the slag pits. US Steel used the average emission rate reported in EPA-600/2-84-072 for the configuration of slag quenching at USS-GCW, i.e., low temperature quenching using mill service water. US

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[50] The annual average slag generation rate used for USS-GCW was 415 pounds per ton of iron. As indicated on page 4-7, a slag generation rate of 670 pounds per ton of iron was used in EPA-600/2-84-072 in the development of its emission factors for PM/PM_{10}.

[51] 0.00419 lbs/ton x 415 pounds/670 pounds = 0.00259 lbs/ton, ≈ 0.0026 lbs/ton.

Steel then adjusted this emission rate downward to account for USS-GCW's actual rate of slag generation.[52]

41. The NOx emission factor for the BOF ESP exhaust is not supported by the supporting documentation provided in the repository and may understate actual emissions. This emission factor, 0.0389 pounds NOx per ton of steel, is the emission rate from the August 1993 emissions test. However, the NOX emission rates from two recent stack tests, for which the test reports are in the repository, exceed this rate.[53] Hence, the current NOx emission factor understates actual emissions and would need to be updated based on the results of recent emissions tests in accordance with new Condition 5.13(c)(i).

The Illinois EPA agrees with this comment. As already discussed, parallel to the processing of this Revised Permit, based on the results of recent stack tests, enforcement staff at the Illinois EPA have been independently pursuing claims that NOx emissions from the BOF ESP are in excess of the applicable emission limits i.e., 0.0389 pounds/ton steel and 69.3 tons/year. While the NOx emission rates measured in these recent stack tests, in April 2012 and July 2012, exceed the NOx emission factor previously provided by US Steel to the Illinois EPA, US Steel has not yet formally notified the Illinois EPA of a new, updated NOx emission factor that it will be using for the BOF ESP. New Conditions 5.13(c)(i) and (d)(i) in the Revised Permit now address the actual review and update of emission factors by US Steel. It specifically requires US Steel to review the emission factors that it uses to determine compliance with the subject emission limits in conjunction with stack testing and to report any updates to those emission limits to the Illinois EPA. These activities will now need to be coordinated with the ongoing enforcement action.

Incidentally, in response to this comment, the present status of the NOx emission factor for the BOF ESP has been appropriately reflected in the Revised Permit. *See*, the note that has been added to Attachment 3.

42. The VOM emission factor for the BOF ESP exhaust is not supported by the documentation provided at the repository and may understate actual emissions. This emission factor, 0.006 pound VOM/ton steel, is the sum of the factors listed in AIRS Emissions Inventory for Source Classification Code (SCC) 3-03-009-013 (BOF: Open Hood-Stack), 3-03-009-016 (Charging: BOF), 3-03-009-017 (Tapping: BOF), and 3-03-009-023 (Steel Furnace Slag Tapping and Dumping). However, the repository contains undated excerpts from two versions of the AIRS Emissions Inventory. The sum of the above emission factors in one excerpt is 0.006 pound/ton; in the other it is 0.009 pound/ton. Furthermore, the

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[52] As reported In Table 3-4 of EPA-600/2-84-072, the average SO_2 content of recovered quench water for low temperature quenching using mill service water was 134.7 mg/l (average of 144.0 and 125.4 mg/l).

Similar to the approach in EPA-600/2-84-for the PM/PM_{10} factor, US Steel developed an SO_2 emission factor per ton of iron produced from the measured SO_2 content of the quench water and information for the usage of water for quenching the slag that accompanies the production on one ton of steel, with an adjustment for the actual slag generation rate at USS-GCW.

134.7 mg/l x 14.5 gal/ton iron x 3.785 l/gal ÷ 453,600 mg/lb = 0.0163 lbs/ton iron

0.0167 pounds/ton iron x 415/670 = 0.010 lbs/ton iron

[53] The NOx emission rate measured in the April 2012 test was 0.1273 pounds/ton of steel. In the July 2012 test, the measured rated was 0.1535 pounds/ton of steel.

VOM emission rates from the BOF ESP measured in two recent stack tests exceed the VOM emission factor.[54] Hence, the current VOM emission factor understates actual emissions and should be updated based on the results of recent emissions tests in accordance with Condition 5.13(c)(i).

The Illinois EPA also agrees with the conclusion of this comment. Regardless of the original basis for this factor, recent stack testing for the BOF ESP shows that the emission rate exceeds the applicable limit. As a consequence, an enforcement action has also been initiated for this exceedance. The present status of the VOM emission factor for the BOF ESP has also been appropriately reflected in the Revised Permit. *See*, the note that has been added to Attachment 3.

43. The lead emission factors for the BOF ESP exhaust, the BOF roof monitor and the BOF desulfurization/hot metal transfer baghouse exhaust are not supported by the documentation provided in the repository and may understate actual emissions. The material at the repository indicates that these factors were developed from the factor in the "AIRS Emissions Inventory" for a BOF with an Open Hood-Stack, SCC 3-03-009-013), adjusted for various undocumented capture and control efficiencies. However, the repository contains undated excerpts from two versions of the AIRS Emissions Inventory. One version has a lead emission factor for SCC 3-03-009-013, 0.2 pounds/ton; the other does not contain a lead emission factor for SCC 3-03-009-013. It is not known which version is newer and therefore correct. If the former version is correct, then the lead emission factors in question are correct provided that the control efficiencies used in the calculations are applicable to the USS-GCW. If the latter version is correct, then the AIRS Emissions Inventory no longer provides an emission factor for lead and the lead emission factors for the BOF ESP exhaust, the BOF roof monitor, and the BOF desulfurization/hot metal transfer baghouse exhaust are not supported.

The emission factors for these units were developed from the version of the AIRS Inventory that contains a lead emission factor for BOF Furnaces, SCC 3-03-009-013, which is the older version, from March 1990. These factors were not based on the newer version of this inventory, from July 2001, which does not contain a lead factor for SCC 3-03-009-013. However, the fact that the newer version does not contain an emission factor for lead under SCC 3-03-009-013 does not show that the emission factors for these units are inadequate. Rather, it merely shows that USEPA elected to not carry over the lead factor from the earlier inventory. As USEPA did not replace the earlier factor with a new factor, the earlier factor still remains applicable.[55] Certainly, it would not be appropriate to now suggest that there are no lead emissions from the BOF Shop, as the presence of lead emissions has been confirmed by the stack testing that has been conducted.

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[54] The VOM emission rate measured in the April 2012 emissions test was 0.023 pounds/ton steel. In the July 2012 test, the measured rated was 0.0153 pounds/ton steel.

[55] As explained in the introduction to the 2001 AIRS Emissions Inventory, this version of the AIRS Inventory was part of the USEPA's Emissions Inventory Improvement Project (EIIP). This project was an effort to combine all emission factors from various inventories into one source for easy reference. Emission factors from the FIRE database and the AIRS database were compiled into this EIIP database. Accordingly, it cannot be assumed that the absence of an emission factor for lead for BOF furnaces reflects a technical decision.

As already discussed, the emission factors for the BOF ESP exhaust and the BOF desulfurization/hot metal transfer baghouse exhaust have been confirmed by recent stack testing. Thus, it is not necessary to further examine the original basis of the factors for these units.

44. The SO_2, NOx and VOM emission factors for uncaptured blast furnace emissions (0.0104, 0.0007 and 0.0047 pounds/ton, respectively) were incorrectly calculated and significantly understate actual emissions. These emission factors were developed from a July 1993 stack test assuming that the capture efficiency for the casthouse baghouse is 95 percent, with uncaptured emissions comprising the remaining 5 percent.[56] The repository does not provide a justification for the assumed capture efficiency of 95 percent. More importantly, the derivation of the uncaptured emission factors from the emission factors for the casthouse baghouse exhaust was not correct. The casthouse baghouse emissions represent 95 percent of the "uncontrolled emissions" (assuming the capture efficiency is correct) reduced by the control efficiency of the baghouse. Hence, before the uncaptured emissions of the blast furnace casthouse can be correctly calculated, both the capture and control efficiencies of the baghouse need to be accounted for when back-calculating the uncontrolled blast furnace emissions from the measured emissions of the casthouse baghouse. The correct formula to calculate uncontrolled emission factors for the blast furnace is as follows, with the capture and control efficiencies both expressed as percentages:

Uncontrolled EF = Baghouse EF ÷ (Capture/100) ÷ (100 - Control)/100

Using a capture efficiency of 95 percent and a control efficiency of 95 percent, as used in the determination of the PM/PM_{10} emission factor for the casthouse baghouse, this formula yields emission factors for uncaptured emissions of SO_2, NOx and VOM from the blast furnace that are significantly higher than those currently being used by US Steel.[57]

This comment does not show that these emission factors were improperly developed. These emission factors involve gaseous pollutants which are not controlled by the casthouse baghouse.[58] Accordingly, the uncontrolled emission factors for these gaseous pollutants, from which the factors

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[56] That is, uncaptured emissions = "uncontrolled emissions" × 0.05, where the uncontrolled emissions are the emissions that would theoretically occur if there were no air pollution control equipment at the casthouse.

[57] Using baghouse capture efficiency of 95 percent and the control efficiency of 95 percent, total blast furnace emissions are calculated as:

SO_2: 0.2006 lb/ton iron ÷ (95/100) ÷ ((100 - 95)/100) = 4.2232 lb/ton iron
NOx: 0.0144 lb/ton iron ÷ (95/100) ÷ ((100-95)/100) = 0.3032 lb/ton iron
VOM: 0.0946 lb/ton iron ÷ (95/100) ÷ ((100-95)/100) = 1.9916 lb/ton iron

SO_2, NOx and VOM emission factors for uncaptured blast furnace emissions are then calculated as:

SO_2: 4.2232 lb/ton of iron × 0.05 = 0.2112 lb/ton iron
NOx: 0.3032 lb/ton of iron × 0.05 = 0.0152 lb/ton iron
VOM: 1.9916 lb/ton of iron × 0.05 = 0.0996 lb/ton iron

[58] **This fact is addressed in the discussion of these emission factors in the Statement of Basis for the Draft Revised Permit. For these gaseous pollutants, the "Origin of the Factor" only provides a value for the capture efficiency of the baghouse control system. This is different than the discussion for PM/PM10, which includes both a capture efficiency and a control efficiency. *See*, Statement of Basis, pages 41 and 42.**

for uncaptured emissions were then calculated, were properly derived using the following equation:

Uncontrolled EF = Baghouse EF ÷ (Capture/100).[59]

45. The PM/PM_{10} emission factor for the argon stir/LMF/material handling baghouse exhaust was calculated in error and understates actual emissions. The stated basis for this factor (0.00715 pounds/ton steel) is the uncontrolled emission factor for an electric arc furnace melting and refining, from Table 7.5-2 in AP-42, adjusted for an undocumented control efficiency of 99.9 percent. The uncontrolled emission factors in this table are 38.0 and 22.04 pounds/ton, respectively, for PM and PM_{10}. Based on a control efficiency of 99.9 percent, the calculated PM and PM_{10} emissions factors are 0.038 and 0.02204 pounds/ton steel, respectively, which are both higher than the applicable limit.[60]

This comment ignores the results of recent stack testing for this emission unit. This testing, in October 2009 and May 2012, shows a very large margin of compliance, with emission rates that are less than 10 percent of the applicable limit, i.e., 0.000388 and 0.000436 pounds/ton of steel compared to a rate of 0.00715 pounds/ton of steel. This testing makes the original basis of this factor irrelevant.[61]

While a different, lower emission factor for PM_{10} could have been established based on the uncontrolled emission factor for PM_{10} in AP-42, this was not the approach that was taken when Construction Permit 95010001 was originally issued setting the emission limits for this unit. The approach that was taken, with a single limit addressing both PM and PM_{10} is more conservative. It also simplifies stack testing because separate testing for emissions of PM_{10} need not be conducted for this unit, which could technically be challenging given the very low levels of emissions that occur from this unit.

46. The PM/PM10 emission factors for caster molds, slab cutoff and slab ripping (0.006, 0.0071 and 0.00722 pounds/ton, respectively) were calculated by dividing emissions in pounds/hour by production in

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[59] Incidentally, for the subject gaseous pollutants, the equation used by the commenter mathematically reduces to the correct equation when the efficiency of the control device is set at zero.

Uncontrolled EF = Baghouse EF ÷ (Capture/100) ÷ (100 - Control)/100
Baghouse EF ÷ (Capture/100) ÷ (100 - *0*)/100, or
Baghouse EF ÷ (Capture/100) ÷ *100*/100, or
Baghouse EF ÷ (Capture/100) ÷ *1.0*, or
Baghouse EF ÷ (Capture/100)

[60] 0.038 pounds/ton steel = 38 pounds/ton × (100 - 99.9)/100
0.02204 pounds/ton steel = 22.04 pounds/ton × (100 - 99.9)/100

[61] US Steel actually indicated that a control efficiency higher than 99.9 percent was used to calculate the emission factor for the baghouse for the argon stir/LMF/material handling operation. However, in the explanation for the Origin of the Factor in the Attachment to the Statement of Basis for the Draft Revised Permit, the Illinois EPA lowered this control efficiency to 99.9 percent. This was because 99.9 percent is considered to be a more reasonable value for the control efficiency of a baghouse when applied to this type of operation.

What is apparent, based on the results of stack testing, is that the original emission limits for this emission unit were conservatively set as they were based on general emission factors for an electric arc furnace, without consideration necessarily having been given for the lower levels of emissions from an LMF (ladle metallurgy furnace), in which refining of material is not conducted.

tons/hour. Emissions and production data from Illinois EPA's 1991 EIS PM/PM10 Report, which provides both an average production rate and a maximum production rate, were used in the calculations. The emission factors were calculated using the maximum production rate (352 tons/hour). This "dilutes" emissions, so that the calculated emission factors understate actual emissions when production is below the maximum rate, which is most of the time. In order to not understate actual emissions, at a minimum, these emission factors should be calculated using the average production rate (198.8092 tons/hour), which is more representative of routine operation. Using the average production rate, these PM/PM_{10} emission factors would be:

Caster Molds: 2.1 lb/hr/198.8092 tons/hr = 0.01506 lb/ton steel
Slab Cutoff: 2.5 lb/hr/198.8092 tons/hr = 0.01257 lb/ton steel
Slab Ripping: 2.54 lb/hr/198.8092 tons/hr = 0.01278 lb/ton steel

The subject emission factors were calculated in a reasonable manner. The purpose of the 1991 EIS Report was to develop information for maximum emission rates in conjunction with the development of Illinois' attainment demonstration for the National Ambient Air Quality Standard for PM_{10}. Accordingly, as data for maximum emission rates was generated, it was appropriate for the maximum production rate to be used when developing emission factors from this inventory. Maximum emission rates would occur at the maximum production rate. It would not have been appropriate to calculate these emission factors using an annual average production rate from the EIS Report, as was done in this comment.

47. In the 2012 Order, USEPA directed the Illinois EPA to eliminate certain conditions in the 2011 Permit related to violation of state emission standards during startup and periods of malfunction or breakdown (SMB) in the absence of all of the documentation required by the 35 IAC 201.261 and 201.262, which rules are part of Illinois State Implementation Plan (SIP). In this regard, the Draft Revised Permit would be identical to the 2011 Permit to which USEPA objected. Instead, Illinois EPA relied on information provided by US Steel attempting to justify the need for advance permission to operate in violation of state emission standards during SMB. However, the information on which Illinois EPA relies is too vague and general to satisfy the requirements of 35 IAC 201.261 and 201.262.

This comment mischaracterizes the 2012 Order.[62] While the 2012 Order found that the Illinois EPA may not grant US Steel advance permission to operate during a startup or malfunction/breakdown event lacking an application from the source that contains the information required by the Illinois SIP, the Order did not direct the Illinois EPA to eliminate conditions in the 2011 Permit that granted such permission. Rather the 2012 Order found that the Illinois EPA did not follow

[62] It is noteworthy that in the 2012 Order, USEPA found that, when issuing the 2011 Permit, the Illinois EPA appropriately explained that the sole determination being made during permitting, in advance of an actual malfunction/breakdown or startup event, is whether the source in its application requested permission to make claims related to continued operation during a malfunction/breakdown or startup event. USEPA also agreed that such authorization in a permit "does not shield the Permittee from enforcement for any such violation and only constitutes a prima facie defense to such enforcement action." Finally, USEPA agreed that the relevant conditions of the 2011 Permit were consistently worded with the Illinois EPA's interpretation of Illinois' SIP. *See*, 2012 Order at page 24.

Illinois' SIP when it approved an application that failed to provide the specific information required by the SIP and directed the Illinois EPA to correct this error.

Consistent with the 2012 Order and as detailed further in the following responses, US Steel supplied all the information that 35 IAC 201.261 requires from a source that is requesting permission to continue to make claims related to operation of particular emission units during startup and malfunction/breakdown events in violation of certain state emission standards.

48. The 2012 Order found that US Steel's application for authorization for certain emission units to violate certain state emission standards during startup and periods of malfunction or breakdown (SMB) did not provide the information required by 35 IAC 201.261. USEPA further found that Illinois EPA therefore failed to comply with 35 IAC 201.262 in granting advance permission in the 2011 Permit for USS-GCW to operate in violation of certain state emission standards during SMB.

This is correct. This error has now been corrected as a part of the issuance of the Revised Permit. US Steel has provided additional information addressing the informational requirements of 35 IAC 201.261.

49. USEPA granted the Petition regarding the inadequacy of USS-GCW's application for advance permission and the inadequacy of the conditions in the 2011 Permit approving USS-GCW's application for advance permission. USEPA held that Illinois EPA may not grant advance permission to operate in excess of emission limits during SMB absent an application from USS-GCW that contains all of the information required by 35 IAC 201.261 and 201.262.2012. USEPA Order at 24-25.

While it is unfortunate that the 2012 Order confuses the differences in the broader factual information to be submitted by an applicant under 35 IAC 201.261 and the narrower legal criteria expressed in the standards for a grant by the Illinois EPA under 35 IAC 201.262, US Steel has provided additional information addressing the informational requirements of 35 IAC 201.261. It should be noted that the slightest inadequacy in a request for startup, breakdown or malfunction authorization does not deprive the State permitting agency of its authority to approve the request and does not invalidate any such approval reflected in a Title V permit. The Illinois EPA does not lose its authority under the Act to approve a permit notwithstanding that an application is incomplete under the Pollution Control Board's rules. *Accord., White Fence Farm, Inc., v. Land and Lakes Company,* 424 N.E.2d 1370 (4th Dist. Ct. Appeals, 1981).

50. On January 31, 2013, Illinois EPA received from US Steel supplemental information to bolster its application to operate in excess of emission limits during SMB (SMB Supplement). When Illinois EPA released the Draft Revised Permit on February 4, 2013, it necessarily relied on USS-GCW's SMB Supplement in determining that US Steel had provided all of the information required by the above-cited rules. Statement of Basis at 27-38. While US Steel provided numerous pages of paper to Illinois EPA, it failed to provide the information required by 35 IAC 201.261 and 201.262. Accordingly, Illinois EPA again lacks the legal authority to grant advance permission in the Permit for USS-GCW to operate

certain emission units in violation of certain applicable state emission standards during SMB.

As previously discussed, this comment's statement that the Illinois EPA lacks legal authority to grant advance permission in US Steel's CAAPP permit to make certain claims related to operation of certain emission units in violation of state standards during a startup or malfunction/breakdown event is flawed. Any perceived deficiencies in a submittal by a source consistent with 35 IAC 201.261 does not deprive the Illinois EPA of jurisdiction to grant authorization so long as the submittal meets the standards of 35 IAC 201.262.

Regardless, as discussed in the Statement of Basis that accompanied the Draft Revised Permit[63], the Revised Permit continues to provide authorization to US Steel to make claims related to startup as US Steel affirmatively demonstrated for each emission unit that is the subject of such request that all reasonable efforts have been made and will be made to minimize startup emissions, duration of individual startups and frequency of startups. Moreover, for each emission unit at USS-GCW that is the subject of a malfunction/breakdown request[64], US Steel has appropriately justified that such authorization is necessary to prevent injury to personnel and/or to prevent severe damage to equipment.

51. 35 IAC 201.261 requires an applicant to describe, among other things, the quantities of emissions that will occur during SMB events and all measures that will be taken to minimize excess emissions during SMB. USEPA has made clear that this information needs to be specific to the event:

> The specific proof required in each instance usually will depend on the nature and the cause of the malfunction or breakdown. Thus, a determination that the permittee has met the requirements of 35 IAC § 201.262 to authorize continued operations during malfunction or breakdowns is a *case-by-case determination*.
>
> 2011 Order at 39 (emphasis supplied).

Unfortunately, the information in USS-GCW's SMB Supplement is general in nature; it is nothing akin to a case-by-case determination. Illinois EPA concedes this: "This information was necessarily general in nature, addressing 'typical' and worst-case malfunction or breakdown events." Statement of Basis at 31. While Illinois EPA offers some reasons why information provided in advance of an SMB event, particularly one involving a malfunction or breakdown, is difficult to predict in advance, that difficulty does not mean that USS-GCW is entitled to advance permission to exceed emission standards during SMB. To the contrary, it means that, unless USS-GCW satisfies the express requirements of the rules, it is not entitled to such advance permission.

This comment misrepresents the statements in USEPA's 2011 Order as it implies that the requirement for a case-by-case determination extends

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[63] *See*, Statement of Basis, pages 32-38.
[64] *See*, Statement of Basis, pages 31-32.

to the application requirements set forth in 35 IAC 201.261.[65, 66] The cited provision in the 2011 Order simply states, in the context of malfunction/breakdown, that a case-by-case determination is required for such events pursuant to 35 IAC 201.262. Consistent with the Illinois SIP, the process in Illinois for addressing malfunction and breakdown, as well as startups, involves two steps. The first step, consists of seeking authorization by means of a permit application to prospectively make a claim related to malfunction/breakdown or startup.[67] The second step of Illinois' process for operation with excess emissions during malfunction/breakdown or startup, addresses the showing that must be made when such an event actually occurs to make a viable claim of malfunction/breakdown or startup.[68] Both steps involve specific determinations, with the second step providing the case-by-case determinations for particular events as addressed by USEPA in the 2011 Order.

In this instance, US Steel submitted the requisite proof that continued operation of the subject units would be necessary to prevent injury to persons or severe damage to equipment so as to entitle US Steel to make claims related to specific malfunction/breakdown events. As discussed in greater detail in the Statement of Basis and the supplemental information submitted by US Steel on January 31, 2013, many of the subject emission units involve materials that are potentially dangerous which must be handled properly to prevent injury to operational personnel. These materials would present an immediate danger to personnel if operation of the subject units were handled inconsistent with the way these units were designed to be operated during malfunction/breakdown events. In addition, US Steel explained that continued operation during malfunction and breakdown events would be needed to prevent severe damage to equipment that would result if molten metal were allowed to solidify in equipment.

Permission shall be granted to operate during a startup event upon proof that all reasonable efforts have been made to minimize startup

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[65] USEPA's 2011 Order makes no reference to such a case-by-case determination in the context of application materials addressing the informational requirements of 35 IAC 201.261. In fact, USEPA's 2011 Order makes no reference to 35 IAC 201.261 in its discussion of the provisions of the 2009 Permit related to exceedances of certain state emission standards during malfunction/breakdown and startup events.

[66] This comment also misleadingly suggests that a statement made by the Illinois EPA in the Statement of Basis for the Draft Revised Permit with respect to malfunction and breakdown is applicable in the context of both malfunction and breakdown events and startup events.

[67] This first step enables conditions to be placed in permits that require source- or unit-specific recordkeeping and reporting relating to malfunction/breakdown and startup events and other requirements related to such events.

[68] For malfunction/breakdown, this showing consists of a demonstration that operation was necessary to prevent injury to persons or severe damage to equipment, or was required to provide essential services. There are two elements to the required showing, "need" and "function". For startup, it shall consist of a demonstration that all reasonable efforts have been made to minimize emissions from the startup event, to minimize the duration of the event, and to minimize the frequency of such events. To a certain extent, this showing may be evaluated on past practice. However, this showing is also prospective, like the showing for malfunction/breakdown, as it relates to future events, which and whose exact circumstances are not known, and which, in fact, may not routinely occur. Again, the malfunction/breakdown or startup authorization that would be provided in the Revised Permit would not shield US Steel from state emission standards that may be violated during such events.

emissions, the duration of individual startups and the frequency of startups. Here, US Steel submitted the requisite proof in its January 31, 2013 submittal and as further detailed by the Illinois EPA in the Statement of Basis for those particular units requesting start up authorization. *See*, Statement of Basis as it addresses the Coke Oven Batteries at pages 33-34, Blast Furnace Processes at pages 35-35, Hot Strip Mill at pages 35-37, and Boilers at pages 37-38.

52. Many of US Steel's estimates of emissions that will occur during SMB are nothing more than statements of the maximum emissions that could possibly occur. For all but one of the opacity limits (which range from 10 - 30 percent) - whether during startup or malfunction/breakdown events, and across several different processes and emission units - US Steel estimates SMB event opacity to "peak at" or "be as high as" 100 percent. For example,

> During certain circumstances, opacity from the boiler stack during startup will exceed 30 percent, and it can under certain circumstances be as high as 100 percent.
>
> SMB Supplement re Startup at Boiler Processes at 7.

Similarly, for all of the particulate matter emission standards of 0.01 gr/dscf, USS-GCW states that SMB emissions could be "0.99 gr/dscf or greater." See, e.g., SMB Supplement re Startup at Blast Furnace Processes at 4.[69] These estimates bear no relation to a case-by-case determination. They state worst-case, maximum emissions virtually across-the-board, without regard to the nature of the event or the type of emission unit.

As explained in previous responses, this comment misrepresents prior statements of USEPA as this comment continues to imply that the requirement for a case-by-case determination extends to application requirements set forth in 35 IAC 201.261. USEPA has made no such assertion; nor does the specific language of this rule create such a requirement.

Moreover, this comment does not demonstrate that the information supplied by US Steel does not satisfy the information requirements of 35 IAC 201.261. For the subject units that US Steel requested startup or malfunction/breakdown authorization, US Steel provided the required information on the type and quantity of emissions during such events. While many of the emissions estimates quantify maximum emissions, this does not mean that the submittal fails to comport with the requirements of 35 IAC 201.261. Nothing in 35 IAC 201.261 prohibits an applicant from quantifying maximum emissions during such events. Simply because the comment suggests a different quantification should have been performed does not mean that the January 2013 submittal does not comport with applicable requirements especially when the comment does not suggest alternative quantifications.

[69] See also SMB Supplement re Malfunction and/or Breakdown at Blast Furnace Processes at 3; and SMB Supplement re Malfunction and/or Breakdown at Ladle Metallurgy Furnace at 2.

53. US Steel's descriptions of efforts to minimize excess SMB emissions offer little case-specific information.[70] Rather, US Steel's summarizes the types of efforts that any prudent operator should routinely take. Language identical or similar to the following appears repeatedly in the SMB Supplement:

> [A]ll reasonable efforts will be taken to minimize the quantity of emissions and the duration of emissions due to startup of the batteries, including extra staffing with overtime, maintaining a spare parts inventory, and employing additional equipment such as cranes and other mobile equipment to expedite repairs.
>
> SMB Supplement re Startup of Coke Oven Processes at 11.[71]

While US Steel's description of efforts it will take to minimize excess emissions during startup or malfunction/breakdown events for each of the subject units may refer to similar measures, as acknowledged by the comment, these are measures that any prudent operator would take.[72] In line with the comment's acknowledgement, the proposed measures are consistent with those sorts of measures that the USEPA would expect to be employed during startups, shutdowns and malfunction events (SSM). ***See, Memorandum from Steven Herman, Assistant Administrator for Enforcement and Compliance Assurance to Regional Administrators, Regions I - X, State Implementation Plans (SIPs): Policy Regarding Excess Emissions During Malfunctions, Startup and Shutdown*** **(stating an approvable SIP provision requires the defendant to demonstrate that repairs were made in an expeditious fashion; this necessarily includes the use of off-shift labor and overtime).**

54. For malfunction and breakdown, US Steel also states:

> In response to malfunction and/or breakdown events, reasonable measures will be taken to prevent such events, including preventative maintenance, maintaining a spare parts inventory, and standing contracts with service providers.
>
> SMB Supplement re Malfunction and/or Breakdown at Coke Oven Processes at 14.[73]

As preventative maintenance, which should be occurring in any event, is cited as a means of minimizing excess emissions during malfunction and/or breakdown events, this is illogical as preventative maintenance cannot reduce excess emissions after events have occurred.

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[70] **This comment again addresses startup and malfunction/breakdown events together, without recognition of the different requirements that apply under Illinois' rules.**

[71] See also SMB Supplement re Malfunction and/or Breakdown at Coke Oven Processes at 14; SMB Supplement re Malfunction and/or Breakdown at Blast Furnace Processes at 4; SMB Supplement re Malfunction and/or Breakdown at Basic Oxygen Processes at 4; SMB Supplement re Malfunction and/or Breakdown at Ladle Metallurgy Furnace at 3; and SMB Supplement re Malfunction and Breakdown at Boiler Processes at 5.

[72] **If the descriptions of efforts to minimize excess startup or malfunction/breakdown emissions for each of the subject units dramatically differed, the concern would be, in certain instances, that the measures proposed by US Steel were less than those of a prudent operator.**

[73] See SMB Supplement re Malfunction and/or Breakdown at Blast Furnace Processes at 4; SMB Supplement re Malfunction and/or Breakdown at Basic Oxygen Processes at 4; and SMB Supplement re Malfunction and/or Breakdown at Ladle Metallurgy Furnace at 3.

While this comment would superficially appear correct, it is not. Upon further consideration, it is apparent that preventative maintenance acts not only to reduce the frequency of malfunction/breakdown events but also the duration and magnitude of excess emissions during such events. This is because preventative maintenance acts to reduce the scope of such events, i.e., the number of elements in an emission unit that are impacted by an event and contribute to excess emissions. In this regard, upon occurrence of an event, preventative maintenance also acts to reduce the scope of the repair work that is needed and the time until normal operation of an emission unit is resumed.

55. In some cases, virtually no information is provided regarding efforts to minimize emissions. See, SMB Supplement re Startup at Blast Furnace Processes at 7 ("maintenance and monitoring" minimize excess startup emissions). Maintenance and monitoring are similarly relied on to minimize excess emissions at hot strip mill processes and boilers.[74]

This comment's statement that minimal information (i.e., "maintenance and monitoring," alone, minimizes excess startup emissions) is provided concerning efforts to minimize emissions misrepresents the breadth of the information provided by US Steel to the Illinois EPA in its January 31, 2013 submittal. For the blast furnace processes, US Steel stated as follows:

> All reasonable efforts are made to minimize startup emissions, the duration of startups and the frequency of startups. It is in U.S. Steel's self-interest to minimize the frequency and duration of startups, as they are costly and interrupt production. The design of the furnaces serves to minimize emissions during startups. Control equipment and control measures are fully operational during startup. Since these furnaces are MACT sources, they are equipped with monitoring equipment specifically designed to detect deficiencies in the function of these units. For the baghouses, this equipment includes leak detection, fan amperage monitoring, baghouse and differential pressure monitoring. Periodic maintenance is performed on regular schedules as required by the Iron and Steel MACT. The combination of this maintenance and monitoring as required by the MACT facilitates efforts taken to minimize emissions from the baghouses during a startup event. Startup and maintenance procedures will be followed and operations personnel shall monitor the individual instruments to minimize risk of excess emission during a blast furnace startup.
>
> January 31, 2013, Supplement re Startup at Blast Furnace Processes, page 7.[75] [76] *See also,* Statement of Basis, pages 34-35.

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[74] See 2013 SMB Supplement re Startup at Hot Strip Mill Processes at 4; SMB Supplement re Startup at Boilers Processes at 7-8.

[75] While maintenance and monitoring is also relied upon to minimize emissions during startup at the hot strip mill, additional information was provided by US Steel as well. *See,* January 31, 2013, Supplement re Startup at Hot Strip Mill Processes, page 4. For instance, emissions during startup of the reheat furnaces are minimized by startup procedures that facilitate good combustion during startup. In addition, the duration of startups is minimized by keeping as much heat as possible in the furnace after a shutdown. This acts to reduce the amount of fuel that must be fired during startup. In

In light of the foregoing, there is no support for this comment's statement that "virtually no information" is provided regarding efforts to minimize emissions during startup of the blast furnace process. A closer review of the submittal indicates that not only is it in the financial interest of the source to minimize the frequency and duration of these events but that control equipment and control measures are fully operational during startup as well. As a result, it is significant that monitoring equipment exists to verify that the control equipment is functioning appropriately and is all-the-while monitored by operations personnel to further minimize the risk of excess emissions during startup.

56. US Steel has not provided the information required by 35 IAC 201.261 and 201.262, and Illinois EPA should not grant advance permission for US Steel to operate in excess of emission limits during SMB events. Illinois EPA should remove the SMB provisions from the Draft Revised Permit before issuing it in final form.

As previously discussed, the information submitted by US Steel meets the requirements of Illinois' SIP. Accordingly, for the emission units that are the subject of US Steel's requests, the Revised Permit would continue to authorize US Steel to make claims related to malfunction/breakdown or startup events. It would not be appropriate for the Illinois EPA in the Revised Permit to make the change requested by this comment.

57. In November 2012, Illinois EPA issued a Violation Notice to US Steel alleging violations for the NOx and VOM limits for the BOF furnaces and ESP) in Condition 7.5.6(c) of the 2011 Permit. By means of a letter dated January 30, 2013, US Steel submitted a compliance plan/schedule requesting that it be incorporated into the CAAPP Permit. While Illinois EPA acknowledges receipt of the compliance plan/schedule in the Statement of Basis, Illinois EPA has made the "preliminary decision to wait until the enforcement cases . . . have been resolved and/or adjudicated before including any compliance schedule in a CAAPP permit for the facility." Statement of Basis at 14-15. Although Illinois EPA has made the preliminary decision not to include US Steel's proposed compliance schedule in the planned Revised CAAPP Permit, the Act and the regulations promulgated thereunder require that such a compliance schedule be included in the Revised CAAPP Permit when it is reissued. Section 39.5(7)(p)(iii) of the Act states that each CAAPP permit shall include a "schedule of compliance consistent with subsection 5 of this Section and applicable regulations." 415 ILCS 5/39.5(7)(p)(iii); *see also* 415 ILCS 5/39.5(7)(p)(iv) (stating that each CAAPP permit shall include "[p]rogress reports consistent with an applicable schedule of compliance . . .").

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addition, startup is overseen by operating personnel, who make adjustments to maintain proper combustion during startup. *See also,* Statement of Basis, pages 35-37.

[76] Similar information was provided by US Steel concerning efforts to minimize emissions at the boilers. See, January 31, 2013, Supplement re Startup at Boilers Processes, pages 7-8. While maintenance and monitoring is also relied upon to minimize emissions during startup, it is in US Steel's financial interest to minimize both the frequency and duration of startups as they are costly and interrupt production. Emissions during startup of the boilers are minimized by startup procedures that facilitate good combustion during startup. Startup is overseen by operating personnel, who make adjustments to maintain proper combustion during startup. *See also,* Statement of Basis, pages 37-38.

The relevant provisions of the Act and accompanying regulations do not require the Illinois EPA to include the compliance schedule proposed by US Steel in the Revised Permit. This is because the Illinois EPA is acting pursuant to Sections 39.5(9)(e)-(g) of the Act rather than Section 39.5(7)(p)(iii) of the Act, as cited by this comment. Section 39.5(7)(p)(iii) of the Act provides, in relevant part, that "[e]ach CAAPP permit issued under subsection 10 of this Section shall contain the following elements with respect to compliance . . . [a] schedule of compliance consistent with subsection 5 of this Section and applicable regulations." 415 ILCS 5/39.5(7)(p)(iii). As Section 39.5(7)(p)(iii) of the Act refers to Section 39.5(10) of the Act, it describes those circumstances under which the Illinois EPA shall generally issue a new CAAPP permit, permit modification, or permit renewal; Section 39.5(10) of the Act is not applicable to the present permitting action, where the Illinois EPA is merely responding to a USEPA order consistent with Section 39.5(9) of the Act.

The scope of the present permit proceeding is narrow. As set forth in the CAAPP, if a petition objecting to a CAAPP permit is granted by USEPA after the permit has already been issued, the Illinois EPA is authorized to revise the CAAPP permit in response to USEPA's order. *See generally,* Sections 39.5(9)(e)-(g) of the Act. These provisions do not require a source to submit an appropriate, complete application, as would be required under Section 39.5(5)(d) of the Act for the Illinois EPA to issue a new or revised CAAPP permit in circumstances where the Illinois EPA is not responding to a USEPA order. Indeed, Section 39.5(9)(g) of the Act specifically provides that a source will not be in violation of the requirement to have submitted a timely and complete application when the Illinois EPA is acting in response to an objection from USEPA.

58. Section 39.5(7)(p)(iv) of the Act provides that each CAAPP permit shall contain "[p]rogress reports consistent with an applicable schedule of compliance pursuant to paragraph (d) of subsection 5 of this Section." Section 39.5(7)(p)(iv) further details the required contents for any such progress reports. 415 ILCS 5/39.5(7)(p)(iv); *see also* 40 CFR 70.6(c)(3) - (4) (stating that "[a]ll part 70 permits shall contain the following elements with respect to compliance . . . [a] schedule of compliance . . . " and progress reports consistent with an applicable schedule of compliance). For such non-compliant emission units, the regulations further require the following:

> …a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any such applicable requirements for which the source will be in noncompliance at the time of application submittal. This compliance plan/schedule of compliance addendum shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the source is subject
>
> 35 IAC 270.404(b).

The Illinois EPA's action is consistent with the CAAPP, Illinois's approved Title V permit program. As already discussed in response to a prior comment, Section 39.5(7)(p) of the Act pertains to CAAPP permits

issued under Section 39.5(10) of the Act and is not applicable to permits issued by the Illinois EPA pursuant to Section 39.5(9) of the Act in response to a USEPA order. *See generally,* Sections 39.5(9)(e)-(g) of the Act. These provisions do not require a source to submit an appropriate, complete application as would generally be required under Section 39.5(5)(d) of the Act when the Illinois EPA is issuing a new or revised CAAPP permit. Not surprising, the requirements of Sections 39.5(9)(e)-(g) of the Act are consistent with the relevant requirements found in 40 CFR 70.8(d) related to the content of state Title V programs, specifically that part of a state program addressing petitions to object filed before the USEPA.[77] *See,* 40 CFR 70.8(d) ("In any case, the source will not be in violation of the requirement to have submitted a timely and complete application.")

While the comment also cites 35 IAC 270.404 for additional support, this rule does little more than codify and elaborate upon the content requirements for CAAPP applications submitted consistent with Section 39.5(5) of the Act. 35 IAC 270.404 begins by stating that "[a] CAAPP application shall contain a compliance plan/schedule of compliance for all emission units at the source, regardless of the compliance status of each emission unit, that contains the following..." Again, given Section 39.5(9)(g) of the Act explicitly provides that a source will not be in violation of the requirement to have submitted a timely and complete application when the Illinois EPA is responding to a USEPA objection, it matters little what the content requirements for a CAAPP application typically are under Section 39.5(5) of the Act when the Illinois EPA is not responding to a USEPA objection.

59. Based on statutory and regulatory provisions discussed in prior comments, CAAPP permits are required to include compliance schedules for emission units that are not in compliance with applicable requirements of the permit at the time of issuance. Illinois EPA stated that it is too soon to determine non-compliance based on the issuance of the violation notice to US Steel because the enforcement process is only in the beginning stages. Illinois EPA also noted that other considerations and information need to be taken into account prior to revising the CAAPP permit to include a compliance schedule. However, US Steel's January 30, 2013 letter requesting a compliance schedule be included in the Revised Permit clearly explained that the results of the last two stack tests demonstrated "that the BOF ESP cannot maintain compliance with the current emission limits for NOx and VOM." Thus, US Steel concluded, based on these stack tests, that USS-GCW cannot comply with certain requirements in the CAAPP Permit for USS-GCW. Accordingly, US Steel requested the inclusion of a compliance schedule in the Revised Permit. The Illinois EPA should reconsider its position on this matter and include the requested compliance schedule in the Revised Permit, as a new Condition 7.5.13.[78]

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[77] The federal rules cited by this comment, 40 CFR 70.6, generally deal with the required contents of an initial CAAPP permit or a CAAPP permit renewal rather than a revised CAAPP permit issued in response to a USEPA action on a petition to object.

[78] The Illinois should also add a cross-reference to this compliance schedule in the Revised Permit, by adding a note (*) after existing Condition 7.5.6(c) as follows: "*These limits have been addressed by the compliance schedule established for compliance with these factors and limits. (See Condition 7.5.13)."

As already discussed in response to other comments, the Illinois EPA is not required to include the compliance schedule proposed by US Steel in the Revised Permit because it was not considered by USEPA in its action on a petition to object. The scope of the present proceeding is quite narrow. *See,* Sections 39.5(9)(e)-(g) of the Act. The scope is not the same as that for a routine CAAPP permitting transaction, *i.e.*, the issuance of an initial CAAPP permit or the renewal of a CAAPP permit. The Illinois EPA is merely responding to USEPA's action on a petition to object.[79] Accordingly, this proceeding does not provide an appropriate forum to include a compliance schedule in the Revised Permit for USS-GCW, much less the proposed compliance schedule submitted by US Steel.[80]

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[79] As already explained, the Illinois EPA is initiating the processing of US Steel's recently submitted compliance schedule in accordance with Section 39.5(14)(c) of the Act, as an application for a significant modification to the CAAPP permit for USS-GCW. That permitting action would potentially involve finalizing a compliance schedule that would address violations of certain emission limits by the BOF. As provided by the Act, the procedures of the CAAPP for significant modification must be followed for "applications requesting significant modifications and for those applications that do not qualify as either minor modifications or as administrative permit amendments." A modification of a CAAPP permit to include a compliance schedule would commonly be considered "significant." *See,* Section 39.5(14)(c)(i) and (ii) of the Act. As a significant modification, that permit action would be subject to public participation, with at least a 45-day public comment period, followed by review by USEPA, in accordance with Sections 39.5(8)(a) and (9) of the Act, rather than a limited 10-day public comment period, as provided for by Section 39.5(9)(g) of the Act.

[80] As discussed in the Statement of Basis, the issuance of a violation notice (VN) is not sufficient to satisfy the demonstration required under Section 505(b)(2) of the Clean Air Act for the inclusion of a compliance schedule in a Title V permit. The non-compliance alleged in a violation notice is simply an early stage in the larger enforcement process of determining whether a violation has occurred and the precise nature of such violation. At this stage in an enforcement action, without further investigation by appropriate enforcement staff, information is generally insufficient to warrant a compliance schedule.

In this particular case, US Steel initially responded to the Illinois EPA's violation notice on January 8, 2013. This response requested a meeting with the Illinois EPA and indicated that US Steel would be submitting additional information in rebuttal of the alleged violations. The requested meeting only recently took place, on February 6, 2013 and US Steel's formal response to the Illinois EPA was just submitted on February 27, 2013. While responding specifically to the violations alleged in the violation notice, US Steel neither admitted or denied the violations and reserved its right "to make arguments, as necessary, in defense of any and all allegations that may be raised by the Illinois EPA and/or the Illinois Attorney General related to this VN."

Meanwhile in the permitting context, on January 30, 2013 US Steel submitted a proposed compliance schedule related to this matter and requested that this compliance schedule be included in this Revised Permit. A prerequisite for inclusion of the proposed compliance schedule in the Revised Permit is that the Illinois EPA determine that the remedy proposed by US Steel and the timing of this remedy are appropriate. This is not discernable at this early stage of this enforcement action. In addition, as already discussed, the Illinois EPA's finding in this regard would need to be subject to public comment and review by USEPA consistent with the general procedures for CAAPP permitting under Sections 39.5(8)(a) and (9) of the Act before any compliance schedule in this matter could actually be included in the CAAPP permit for USS-GCW.

Accordingly, it is appropriate to wait until this enforcement case has further evolved before including any compliance schedule concerning this matter in a CAAPP permit for USS-GCW. It certainly not appropriate to include the compliance schedule proposed by US Steel in the Revised Permit that has now been issued.

FOR ADDITIONAL INFORMATION

Questions about this permitting decision should be directed to:

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SUMMARY OF SIGNIFICANT CHANGES BETWEEN THE DRAFT AND THE ISSUED REVISED PERMITS

Condition 5.13

The initial discussion in new Condition 5.13, the General Procedures for Certain Permit Limits on Emissions, now explicitly indicates that the "emission factors" contained in the subject conditions are emission limits. This change has been made because of the continuing confusion displayed in comments about whether the emission factors in those conditions were limits or fixed values of emissions that US Steel could use to address compliance with the limits in the subject conditions for annual emissions. This change is consistent with the 2012 Order as it stated that the Illinois EPA should consider clarifying in the Revised Permit that the emission factors in the subject conditions are, in fact, emission limits. *See*, 2012 Order, pages 8-9.

The introductory paragraph of new Condition 5.13 now reads that "[p]ursuant to Sections 39.5(7)(b) and (p)(v) of the Act, these procedures are applicable for the emission limits in Conditions 7.1.6(b)(i) through (iv), 7.4.6(b) through (f), 7.5.6(c) through (g) and 7.6.6(a) through (e), which address the rates of emissions or 'emission factors' (commonly in pounds/ton) and the annual emissions or 'maximum emissions' (in tons/year) of certain emission units, as the Permittee determines compliance with these limits with 'emission factors,' using the common meaning of this term. In particular, notwithstanding the fact that the above listed conditions set 'emission factor limits' or limits on the rates of emissions, for purposes of this condition, an 'emission factor' is a set value for the mass of a pollutant emitted by a particular emission unit relative to the amount of material that is processed or handled by the unit, or in the case of lead, a set value for the mass of lead emissions for each hour that the particular unit operates, which value is used in the determination of the emissions of the unit."

In addition, in Condition 5.13, the term "actual" is no longer used to describe emissions as represented or determined by emission factors. This is because these emissions may overstate the real or actual emissions. This change has been made in response to various comments. These comments highlighted the fact that the emissions of emission units as would conservatively be determined in compliance demonstrations using emission factors in accordance with the provisions of the permit would be equal to or, more likely, higher than the actual emissions of the units.

Note in Condition 5.13 and Introduction to Attachment 3

Changes have been made to the language in the note in new Condition 5.13 and related language in the introduction to Attachment 3, which lists the current emission factors being used by US Steel for the subject units as of the date of issuance of this Revised Permit. The changes clarify that the specific emission factors listed in Attachment 3 are based on information as provided by US Steel. This change was made in response to comments on the Draft Revised Permit that improperly suggested that the emission factors listed in Attachment 3 are factors that have been approved by the Illinois EPA rather than simply a listing of the emission factors that US Steel has indicated that it is currently using to demonstrate compliance with the subject emission limits.

Attachment 3

Notes have been added for the current emission factors used by US Steel for NOx and VOM emissions from the ESP at the BOF so that the Revised Permit accurately reflects the present status of the process to update these emission factors. In particular, parallel to the processing of the Revised Permit, the Illinois EPA has been independently pursuing claims that NOx and VOM emissions from the ESP at the BOF during two recent stack tests were in excess of applicable emission limits. While the NOx and VOM emission rates measured in the April 2012 and the July 2012 stack tests exceed the emission factors as previously provided by US Steel to the Illinois EPA, US Steel has not yet formally notified the Illinois EPA of a new, updated emission factor that it will be using for NOx and VOM emissions of the BOF ESP.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

TDD 217/782-9143

NOV 3 0 2012

Certified Mail # 7010 2780 0002 1165 1120
Return Receipt Requested

Richard Veitch
United States Steel Corporation – Granite City Works
1951 State Street
Granite City, Illinois 62040

RE: Violation Notice A-2012-00169
I.D. 119813AAI

Dear Mr. Veitch:

This constitutes a Violation Notice pursuant to Section 31(a)(1) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(1), and is based upon a review of available information and an investigation by representatives of the Illinois Environmental Protection Agency ("Illinois EPA").

The Illinois EPA hereby provides notice of alleged violations of environmental laws, regulations, or permits as set forth in Attachment A to this letter. Attachment A includes an explanation of the activities that the Illinois EPA believes may resolve the specified alleged violations, including an estimate of a reasonable time period to complete the necessary activities. Due to the nature and seriousness of the alleged violations, please be advised that resolution of the violations may also require the involvement of a prosecutorial authority for purposes that may include, among others, the imposition of statutory penalties.

A written response, which may include a request for a meeting with representatives of the Illinois EPA, must be submitted via certified mail to the Illinois EPA within 45 days of receipt of this letter. If a meeting is requested, it shall be held within 60 days of receipt of this notice. The response must include information in rebuttal, explanation, or justification of each alleged violation and a statement indicating whether or not the source wishes to enter into a Compliance Commitment Agreement ("CCA") pursuant to Section 31(a) of the Act. If the source wishes to enter into a CCA, the written response must also include proposed terms for the CCA that contains dates for achieving each commitment and may also include a statement that compliance has been achieved for some or all of the alleged violations. In order to increase the likelihood of the Illinois EPA accepting such terms, the written response should specifically propose them in a manner that can be formalized into an enforceable agreement between the Illinois EPA and the source. As such, proposed conditions should be as detailed as possible, including steps to be taken to achieve compliance, the manner of compliance, interim and completion dates, etc.

The Illinois EPA will review the proposed terms for a CCA provided by the source and, within 30 days of receipt, will respond with either a proposed CCA or a notice that no CCA will be issued by the Illinois EPA. If the Illinois EPA sends a proposed CCA, the source must respond in writing by either agreeing to and signing the proposed CCA or by notifying the Illinois EPA that the source rejects the terms of the proposed CCA.

If a timely written response to this Violation Notice is not provided, it shall be considered a waiver of the opportunity to respond and meet, and the Illinois EPA may proceed with referral to the prosecutorial authority.

Written communications should be directed to ERIC JONES, Illinois EPA, Bureau of Air, Compliance Unit, P.O. Box 19276, Springfield, Illinois 62794-9276. All communications must include reference to the Violation Notice number in this matter.

Questions regarding this matter should be directed to JEFF BENBENEK at 618/346-5120.

Sincerely,

Raymond E. Pilapil, Manager
Compliance Section
Bureau of Air

REP: ej

Violation Notice A-2012-00169
United States Steel Corporation – Granite City Works, I.D. 119813AAI

ATTACHMENT A

Per available information:

1. Section 39.5(6)(a) of the Act and condition 7.5.6(c) of Clean Air Act Permit Program ("CAAPP") permit 96030056: For at least calendar year 2011, United States Steel Corporation – Granite City Works caused or allowed the emissions of nitrogen oxides ("NOx") and volatile organic material ("VOM") from its basic oxygen furnace ("BOF") and associated electrostatic precipitator ("ESP") to exceed the emission limits of 69.63 tons/year and 10.74 tons/year, respectively. Additionally, during emissions testing of the BOF and associated ESP, performed on April 3-4, 2012 and July 19-20, 2012, United States Steel Corporation – Granite City Works caused or allowed the emissions of NOx and VOM in excess of the emission limits of 0.0389 lb/ton and 0.006 lb/ton, respectively.

2. Sections 9(a), 9.1(d) and 39.5(6)(a) of the Act, 40 CFR 63.7790(b)(3), and condition 7.5.3(f) of CAAPP permit 96030056: United States Steel Corporation – Granite City Works caused or allowed the hourly average opacity from the BOF and associated ESP to exceed 10% between April 4-6, 2012.

3. Sections 9(a), 9.1(d) and 39.5(6)(a) of the Act , 40 CFR 63.6(e)(1)(i), and condition 7.7.5-1(a) of CAAPP permit 96030056: On April 4-6, 2012, United States Steel Corporation – Granite City Works caused or allowed the operation of the BOF and associated ESP in a manner inconsistent with good air pollution control practices for minimizing emissions to levels required by 40 CFR 63, Subpart FFFFF.

4. Sections 9(a) and 39.5(6)(a) of the Act and condition 7.5.5-3(c)(ii) of CAAPP permit 96030056: United States Steel Corporation – Granite City Works caused or allowed the operation of the BOF after the steam-rings became inoperable. Specifically, from at least July 13, 2012 through October 1, 2012, and the steam-rings on steelmaking vessel #1 were inoperable and from at least August 29, 2012 through October 1, 2012, the steam-rings on steelmaking vessel #2 were inoperable.

RECOMMENDATIONS:

The Illinois EPA suggests that United States Steel Corporation – Granite City Works take the following actions to address the violations stated above:

1. Within 45 days of receipt of this Violation Notice, submit appropriate applications to revise the limitations for NOx and VOM contained in condition 7.5.6(c) of CAAPP permit 96030056.

Violation Notice A-2012-00169
United States Steel Corporation – Granite City Works, I.D. 119813AAI

ATTACHMENT A (Continued)

RECOMMENDATIONS (cont.):

2. Within 45 days of receipt of this Violation Notice, develop, implement, and submit to the Illinois EPA a revised operating and maintenance plan for the ESP that will ensure opacity emissions from the BOF and associated ESP will remain at a level below the hourly average of 10% during normal operation.

3. Within 45 days of receipt of this Violation Notice, develop, implement, and submit to the Illinois EPA a monitoring and maintenance plan that will ensure the proper operation of the steam rings at all times during operation of the BOF.

4. Within 45 days of receipt of this Violation Notice, submit to the Illinois EPA emissions calculations for NOx, VOM, and PM from the BOF and associated ESP for calendar year 2012, along with supporting documentation.

Granite City Works
United States Steel
20th & State Street
Granite City, IL 62040
(618) 451-3456

RECEIVED
JAN 31 2013
Illinois Environmental Protection Agency
BUREAU OF AIR
STATE OF ILLINOIS

January 30, 2013

VIA ELECTRONIC MAIL AND HAND DELIVERY

Michael T. Reed, Manager
CAAPP Unit, Bureau of Air
Illinois Environmental Protection Agency
1021 North Grand Avenue East, Post Office Box 19276
Springfield, Illinois 62794-9276

Subject : United States Steel Corporation Granite City Works
CAAPP No. 96030056, Facility I.D No. 119813AAI
Basic Oxygen Furnace ESP Emissions – Permit Condition 7.5.6(c)

Dear Mr. Reed:

Following up to our prior submittal of stack test results and after receipt of the Violation Notice A-2012-00169, dated November 30, 2012, regarding the Basic Oxygen Furnace ESP emissions, United States Steel Corporation Granite City Works ("U.S. Steel") is hereby submitting a compliance schedule. As you discussed with representatives of U. S. Steel, U. S. Steel respectfully requests that the enclosed schedule, provided per 40 CFR § 70.5(c)(8) and § 39.5 of the Illinois Environmental Protection Act, be incorporated into CAAPP No. 96030056, consistent with 40 CFR § 70.6 and § 39.5 of the Illinois Environmental Protection Act.

The last two stack tests have demonstrated that the BOF ESP cannot maintain compliance with the current emission limits for NOx and VOM. These limits were developed from historic information from a prior owner of the facility. As you know, the ESP does not control nor is it believed to contribute to NOx and VOM emissions.

If you have any questions regarding the enclosed information, please contact Jason Braxton at JKBraxton@uss.com or by phone at (412) 433-6544, or contact Bryan Kresak at BMKresak@uss.com or by phone at (618) 451-3391.

Finally, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

Richard E Veitch

Richard Veitch
General Manager
Granite City Works
United States Steel Corporation

Enclosures

EXHIBIT F

United States Steel Corporation
Granite City Works
BOP ESP Emissions
Compliance Plan/Schedule
January 30, 2013

Compliance Plan/Schedule Element	Milestone Date*	Completion Date
1. Advise Illinois EPA regarding stack test results/noncompliance.	September 19, 2012	Complete
2. Submit stack test schedule and test protocols to develop emission factors and revise annual limits for NO_x and VOM		April 30, 2013
3. Begin stack testing	1 months after IEPA approval of stack test plan	August 31, 2013
4. Submit final stack test results	2 months after final test	October 31, 2013
5. Submit emission factors for NO_x and VOM based on stack test results for IEPA approval	1 months after submitting results of final stack test	December 31, 2013
6. Submit PSD #95010001 and Title V permit application(s) for integrated processing to establish new NO_x and VOM emission factors and annual limits	6 months after emission factor approval	June 30, 2014
7. Receive PSD Permit	Assume year after application submittal	June 30, 2015
8. Submit Title V application for an administrative amendment or minor modification to incorporate PSD changes	One month after PSD permit issuance	July 31, 2015
9. Receive administrative amendment from IEPA	Three months	August 31, 2015
10. EPA 60-day review	60-days after submittal	October 31, 2015
11. Submit progress reports to IEPA at a minimum of every six (6) months		
12. Compliance**		October 31, 2015

* **An interim milestone date, which is missed, is not a violation provided that the final compliance date(s) are met.**

** **Compliance date based on receiving final permit(s) with new emission factors**

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

UNITED STATES STEEL CORPORATION, a Delaware corporation,	)	
Petitioner,	)	
v.	)	PCB 2013-____ (CAAPP Permit Appeal)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent.	)	

MOTION FOR STAY OF EFFECTIVENESS OF CONTESTED CONDITIONS

NOW COMES Petitioner, UNITED STATES STEEL CORPORATION (hereinafter "U.S. Steel"), by and through its attorneys, HODGE DWYER & DRIVER, pursuant to Section 40.2(f) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/40.2(f), and hereby requests that the Illinois Pollution Control Board ("Board") grant a stay of effectiveness with regard to the contested conditions within the Revised Clean Air Act Permit Program ("CAAPP") permit (App. No. 96030056) issued to U.S. Steel by the Illinois Environmental Protection Agency ("Illinois EPA") on March 4, 2013 ("2013 CAAPP Permit"). In support of this Motion, U.S. Steel states as follows:

1. On March 4, 2013, the Illinois EPA issued the 2013 CAAPP Permit to U.S. Steel's integrated iron and steel mill in Granite City, Illinois.

2. U.S. Steel is contemporaneously filing herewith a Petition for Review ("Petition") of the 2013 CAAPP Permit, specifically contesting the following conditions:

- Condition 5.13 – General Procedures for Certain Permit Limits on Emissions;
- Condition 7.1.6(b)(i)-(iv) – Emission Factors for Material Handling and Processing Operations;

- Condition 7.4.6(b)-(f) – Emission Factors for Blast Furnace Activities;
- Condition 7.5.6(b) – Annual NOx and VOM Emission Limits for the BOF Shop;
- Condition 7.5.6(c)-(g) – Emission Factors for BOF Shop Activities, NOx and VOM Maximum Emissions for the BOF ESP Stack, and failure to include a note regarding a compliance schedule (See Condition 7.5.13);
- Condition 7.5.13 – Compliance Schedule and Current Enforcement Status: Failure to include a compliance schedule for NOx and VOM emissions from the BOF Shop; and
- Condition 7.6.6(a)-(e) – Emission Factors for Continuous Casting Activities.

A table describing the contested conditions in more detail is included with this Motion as Exhibit A.

3. Section 40.2(f) of the Act states the following, in relevant part:

> If requested by the applicant, the Board may stay the effectiveness of any final Agency action identified in subsection (a) of this Section during the pendency of the review process. If requested by the applicant, the Board shall stay the effectiveness of all the contested conditions of a CAAPP permit. The Board may stay the effectiveness of any or all uncontested conditions if the Board determines that the uncontested conditions would be affected by its review of contested conditions. If the Board stays any, but not all, conditions, then the applicant shall continue to operate in accordance with any related terms and conditions of any other applicable permits until final Board action in the review process. If the Board stays all conditions, then the applicant shall continue to operate in accordance with all related terms and conditions of any other applicable permits until final Board action in the review process. Any stays granted by the Board shall be deemed effective upon the date of final Agency action appealed by the applicant under this subsection (f). Subsection (b) of Section 10-65 of the Illinois Administrative Procedure Act shall not apply to actions under this subsection.

415 ILCS 5/40.2(f). (Emphasis added.)

4. As set forth in Section 40.2(f) above, "[i]f requested by the applicant, the Board may stay the effectiveness of any final Agency action identified in subsection (a) of this Section during the pendency of the review process."

5. Section 40.2(a) includes as a "final Agency action" Illinois EPA's granting of a CAAPP permit with conditions. 415 ILCS 5/40.2(a).

6. Therefore, pursuant to Section 40.2(f), the Board shall grant U.S. Steel a stay of the effectiveness of the contested conditions of the 2013 CAAPP Permit, as described above and in the Petition, during the pendency of the review process.

7. Further, a stay of the contested conditions is necessary to prevent irreparable harm to U.S. Steel and to protect U.S. Steel's clearly ascertainable right to appeal permit conditions.

8. Finally, U.S. Steel requests that the Board stay the effectiveness of any uncontested conditions should the Board determine that any uncontested conditions would be affected by its review of contested conditions. *See* 415 ILCS 5/40.2(f).

WHEREFORE, Petitioner, UNITED STATES STEEL CORPORATION requests the Board grant a stay of effectiveness with regard to the contested conditions of the

2013 CAAPP Permit, as described herein and in the Petition, and any uncontested conditions, as determined by the Board, during the pendency of the review process.

Respectfully submitted,

UNITED STATES STEEL CORPORATION,
Petitioner,

Dated: April 8, 2013

By: Monica T. Rios
Monica T. Rios

Katherine D. Hodge
Monica T. Rios
HODGE DWYER & DRIVER
3150 Roland Avenue
Post Office Box 5776
Springfield, Illinois 62705-5776
(217) 523-4900

CONTESTED CONDITIONS – CAAPP Permit Appeal (Permit issued March 4, 2013)

Contested Condition in CAAPP Permit	CAAPP Permit Page(s)	Emission Factor
5.13 – General Procedures for Certain Permit Limits on Emissions	45-47	NA
7.1 – Material Handling and Processing Operations		
7.1.6(b)(i) – Emissions from Material HS and Deslagging Station (See 7.6.6(a) below)	53	*PM*: 0.00355 lbs/ton *PM10*: 0.00355 lbs/ton
7.1.6(b)(ii) – BOF Additive System (Trackhopper Baghouse)	54	*PM*: 0.00032 lbs/ton *PM10*: 0.00032 lbs/ton
7.1.6(b)(iii) – Flux conveyor and transfer points (Bin Floor Baghouse)	54	*PM*: 0.0016 lbs/ton *PM10*: 0.0016 lbs/ton
7.1.6(b)(iv) – Iron Pellet Screen	54	*PM*: 0.00279 lbs/ton *PM10*: 0.00279 lbs/ton
7.4 – Blast Furnace		
7.4.6(b) – Casthouse Baghouse	158	*PM:* 0.0703 lbs/ton *PM10*: 0.0703 lbs/ton *SO2*: 0.2006 lbs/ton *NOx*: 0.0144 lbs/ton *VOM*: 0.0946 lbs/ton
7.4.6(c) – Blast Furnace uncaptured fugitive emissions	158	*PM*: 0.031 lbs/ton *PM10*: 0.0155 lbs/ton *SO2*: 0.0104 lbs/ton *NOx*: 0.0007 lbs/ton *VOM*: 0.0047 lbs/ton
7.4.6(d) – Blast Furnace Charging	158	*PM*: 0.0024 lbs/ton *PM10*: 0.0024 lbs/ton
7.4.6(e) – Slag Pits	158	*PM:* 0.00417 lbs/ton *PM10*: 0.00417 lbs/ton *SO2*: 0.0100 lbs/ton
7.4.6(f) – Iron Spout Baghouse	159	*PM*: 0.02548 lbs/ton *PM10*: 0.02548 lbs/ton *SO2*: 0.0073 lbs/ton

EXHIBIT A

Contested Condition in CAAPP Permit	CAAPP Permit Page(s)	Emission Factor
7.5 – Basic Oxygen Processes		
7.5.6 (b) – BOF Shop Emissions (tons/yr total) – (Only NOx and VOM annual emission limits)	191	**Annual Emissions:** *NOx*: 70 tpy *VOM:* 12 tpy
7.5.6(c) – BOF ESP Stack (charge, refine, tap)	191	*PM*: 0.16 lbs/ton *PM10*: 0.16 lbs/ton *NOx*: 0.0389 lbs/ton *VOM*: 0.0060 lbs/ton *CO*: 8.993 lbs/ton *Lead*: 0.1934 lbs/hr **Maximum Emissions:** *NOx*: 69.63 tpy *VOM:* 10.74 tpy
7.5.6(c) – BOF ESP Stack – Failure to include note regarding compliance schedule (See Condition 7.5.13)	191	NA
7.5.6(d) – BOF Roof Monitor	191	*PM*: 0.0987 lbs/ton *PM10*: 0.06614 lbs/ton *Lead*: 0.0129 lbs/hr
7.5.6(e) – Hot Metal Desulfurization and Hot Metal Transfer	192	*PM*: 0.03721 lbs/ton *PM10*: 0.03721 lbs/ton *VOM*: 0.0010 lbs/ton *Lead*: 0.0133 lbs/hr
7.5.6(f) – Hot metal charging and ladle slag skimming	192	*PM*: 0.0050 lbs/ton *PM10*: 0.0050 lbs/ton
7.5.6(g) – Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy Baghouse #2)	192	*PM*: 0.00715 lbs/ton *PM10*: 0.00715 lbs/ton
7.5.13 – Compliance Schedule and Current Enforcement Status – Failure to include compliance schedule for NOx and VOM emissions from the BOF Shop related to the VN issued November 30, 2012.	216	NA
7.6 – Continuous Casting		
7.6.6(a) – Deslagging Station and associated Material Handling System (See 7.1.6(b)(i) above)	220	*PM:* 0.00355 lbs/ton *PM10*: 0.00355 lbs/ton

Contested Condition in CAAPP Permit	CAAPP Permit Page(s)	Emission Factor
7.6.6(b) – Caster Molds - Casting	220	*PM*: 0.006 lbs/ton *PM10*: 0.006 lbs/ton *NOx*: 0.050 lbs/ton
7.6.6(c) – Caster Spray Chambers	220	*PM*: 0.00852 lbs/ton *PM10*: 0.00852 lbs/ton
7.6.6(d) – Slab Cut-off		*PM:* 0.0071 lbs/ton *PM10*: 0.0071 lbs/ton
7.6.6(e) – Slab Ripping	220	*PM:* 0.00722 lbs/ton *PM10*: 0.00722 lbs/ton

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

UNITED STATES STEEL CORPORATION, a Delaware corporation,	)	
Petitioner,	)	
v.	)	PCB 2013-____ (Permit Appeal-Air)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent.	)	

NOTICE OF FILING

TO: Mr. John Therriault
Assistant Clerk of the Board
Illinois Pollution Control Board
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601
(VIA ELECTRONIC MAIL)

(SEE PERSONS ON ATTACHED SERVICE LIST)

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Illinois Pollution Control Board a copy of United States Steel Corporation's **ENTRY OF APPEARANCE OF KATHERINE D. HODGE, ENTRY OF APPEARANCE OF MONICA T. RIOS, PETITION FOR REVIEW OF A CONSTRUCTION PERMIT WITH INTEGRATED PROCESSING,** and **MOTION FOR STAY OF EFFECTIVENESS OF CONTESTED CONDITIONS,** a copy of which is hereby served upon you.

Respectfully submitted,

UNITED STATES STEEL CORPORATION,
Petitioner,

Dated: May 6, 2013

By:/s/ Katherine D. Hodge
Katherine D. Hodge

Katherine D. Hodge
Monica T. Rios
HODGE DWYER & DRIVER
3150 Roland Avenue
Post Office Box 5776
Springfield, Illinois 62705-5776
(217) 523-4900

THIS FILING SUBMITTED ON RECYCLED PAPER

CERTIFICATE OF SERVICE

I, Katherine D. Hodge, the undersigned, certify that I have served the attached ENTRY OF APPEARANCE OF KATHERINE D. HODGE, ENTRY OF APPEARANCE OF MONICA T. RIOS, PETITION FOR REVIEW OF A CONSTRUCTION PERMIT WITH INTEGRATED PROCESSING, and MOTION FOR STAY OF EFFECTIVENESS OF CONTESTED CONDITIONS upon:

Mr. John Therriault
Assistant Clerk of the Board
Illinois Pollution Control Board
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601

via electronic mail on May 6, 2013; and upon:

Division of Legal Counsel
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

by depositing said documents in the United States Mail, postage prepaid, in Springfield, Illinois, on May 6, 2013.

By: /s/ Katherine D. Hodge
Katherine D. Hodge

USSC:003/Fil/NOF-COS –EOAs-Mtn To Stay-Petition for Review

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

UNITED STATES STEEL CORPORATION, a Delaware corporation,	)	
Petitioner,	)	
v.	)	PCB 2013-____ (Permit Appeal-Air)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent.	)	

ENTRY OF APPEARANCE OF KATHERINE D. HODGE

NOW COMES Katherine D. Hodge, of the law firm of HODGE DWYER & DRIVER, and hereby enters her appearance on behalf of Petitioner, UNITED STATES STEEL CORPORATION, in the above-referenced matter.

Respectfully submitted,

UNITED STATES STEEL CORPORATION,
Petitioner,

By: /s/ Katherine D. Hodge
One of Its Attorneys

Dated: May 6, 2013

Katherine D. Hodge
HODGE DWYER & DRIVER
3150 Roland Avenue
Post Office Box 5776
Springfield, Illinois 62705-5776
(217) 523-4900

USSC:003/Fil/EOA KDH

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

UNITED STATES STEEL CORPORATION, a Delaware corporation,	)	
Petitioner,	)	
v.	)	PCB 2013-____ (Permit Appeal-Air)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent.	)	

ENTRY OF APPEARANCE OF MONICA T. RIOS

NOW COMES Monica T. Rios, of the law firm of HODGE DWYER & DRIVER, and hereby enters her appearance on behalf of Petitioner, UNITED STATES STEEL CORPORATION, in the above-referenced matter.

Respectfully submitted,

UNITED STATES STEEL CORPORATION,
Petitioner,

By:/s/ Monica T. Rios
Monica T. Rios

Dated: May 6, 2013

Monica T. Rios
HODGE DWYER & DRIVER
3150 Roland Avenue
Post Office Box 5776
Springfield, Illinois 62705-5776
(217) 523-4900

USSC:003/Fil/EOA MTR

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

UNITED STATES STEEL CORPORATION, a Delaware corporation,	)	
Petitioner,	)	
v.	)	PCB 2013-____ (Permit Appeal-Air)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent.	)	

PETITION FOR REVIEW OF A CONSTRUCTION PERMIT WITH INTEGRATED PROCESSING

NOW COMES Petitioner, UNITED STATES STEEL CORPORATION (hereinafter "U.S. Steel"), by and through its attorneys, HODGE DWYER & DRIVER, pursuant to Section 40(a)(1) and Section 40.2 of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/40(a) and 40.2, and 35 Ill. Admin. Code § 105.204 and Part 105, Subpart C, and petitions the Illinois Pollution Control Board ("Board") for review of the Construction Permit (Subject to Integrated Processing) issued to U.S. Steel by the Illinois Environmental Protection Agency ("Illinois EPA") on April 1, 2013. In support of this Petition, U.S. Steel states as follows:

I. BACKGROUND

1. In November 2011, U.S. Steel submitted an application for a construction permit to authorize construction of an emission reduction project. For this project, U.S. Steel will construct a new baghouse to control particulate emissions from charging and tapping at the basic oxygen process furnaces ("BOF").

2. On April 1, 2013, Illinois EPA issued the Construction Permit (Subject to Integrated Processing) ("Construction Permit") to U.S. Steel, authorizing the construction of the new baghouse. The Construction Permit is attached hereto as Exhibit A.

3. The Construction Permit also authorized revisions to U.S. Steel's Clean Air Act Permit Program permit ("CAAPP Permit") via administrative amendment because the Construction Permit was subject to integrated processing, meaning that the Construction Permit "was subject to procedural requirements and includes compliance requirements that are substantially equivalent to those that apply to CAAPP permits." The revisions authorized to be made to the CAAPP Permit are specified in Part 2 (Changes that are "Pre-Authorized" to the CAAPP Permit) of the Construction Permit.

4. As discussed in more detail below, U.S Steel's CAAPP Permit is the subject of an appeal proceeding before the Board. Because the issuance of the Construction Permit includes conditions in Part 2 of the Construction Permit that are identical to several of the contested conditions in the CAAPP Permit appeal, U.S. Steel is hereby contesting those same conditions in Part 2 of the Construction Permit in this Petition on the same basis as articulated in the CAAPP Permit appeal and discussed in Sections III and IV below.

5. U.S. Steel is contesting the following conditions in Part 2 of the Construction Permit:

- Condition 7.5.6(b) – Annual NOx and VOM Emission Limits for the BOF Shop;

- Condition 7.5.6(c)-(g) – Emission Factors for BOF Shop Activities, NOx and VOM Annual Maximum Emissions for the BOF ESP Stack, and failure to include a note regarding a compliance schedule (See Condition 7.5.13);

- Condition 7.5.13 – Compliance Schedule and Current Enforcement Status: Failure to include a compliance schedule for NOx and VOM emissions from the BOF Shop; and

A table listing the contested conditions in Part 2 of the Construction Permit is attached as Exhibit B.

6. U.S. Steel is contesting the identical conditions in Part 2 of the Construction Permit that are being contested in the CAAPP Permit appeal. For the reasons discussed in this Petition, Illinois EPA's final action with regard to the contested conditions was arbitrary, capricious and not supported by the Act or Board regulations. Accordingly, U.S. Steel seeks review of the contested conditions in Part 2 of the Construction Permit. The filing of this Petition is timely because it was filed with the Board within 35 days after issuance of the Construction Permit.

7. U.S. Steel is also filing contemporaneously herewith a Motion to Stay the Effectiveness of Contested Conditions in Part 2 of the Construction Permit and is requesting a stay of contested conditions in Part 2 of the Construction Permit during the pendency of the review process.

II. PROCEDURAL HISTORY

A. CAAPP Permit Appeal

8. U.S. Steel owns and operates an integrated iron and steel mill in Granite City, Illinois (the "Facility"), pursuant to its CAAPP Permit issued on March 4, 2013.

9. On April 8, 2013, U.S. Steel filed a Petition for Review of the CAAPP Permit and requested a stay of effectiveness of the contested conditions. Petition for Review, *United States Steel Corporation v. Illinois EPA,* PCB No. 13-53 (Ill.Pol.Control.Bd. April 8, 2013). U.S. Steel petitioned the Board for review of the CAAPP Permit based on two issues: 1) the inclusion of Condition 5.13 in the 2013 CAAPP Permit and explicit determination by Illinois EPA that "emission factors" incorporated in the CAAPP Permit from the Construction Permit/Prevention of Significant Deterioration ("PSD") Approval No. 95010001 ("PSD Permit") issued to National Steel, the prior owner and operator of the Facility, by Illinois EPA on January 25, 1996 (and subsequently revised and reissued on several occasions) are, in fact, enforceable "emission limits;" and 2) the failure of Illinois EPA to include a compliance schedule in the CAAPP Permit related to the Violation Notice ("VN") issued to U.S. Steel by Illinois EPA on November 30, 2012.

10. Accordingly, U.S. Steel contested conditions of the CAAPP Permit establishing emission factors as emission limits and certain annual NOx and VOM emissions related for BOF Shop Activities at Condition 7.5.6, as well as other conditions of the CAAPP Permit with similarly established emission factors. *See* Attachment B, Petition for Review, PCB No. 13-53.

11. On May 2, 2013, the Board granted U.S. Steel's Motion for Stay of Effectiveness of Contested Conditions in the CAAPP Permit appeal. Board Order, *United States Steel Corporation v. Illinois EPA,* PCB No. 13-53 (Ill.Pol.Control.Bd. May

2, 2013) (granting the stay of effectiveness of contested conditions until the Board takes final action in the matter or orders otherwise).

B. Integrated Processing of the Construction Permit

12. As noted above, the Construction Permit was subject to integrated processing in order to authorize certain changes to the CAAPP Permit via administrative amendment. Illinois EPA explained in the Project Summary[1] for the Construction Permit:

> . . .[I]n conjunction with the planned issuance of a construction permit for the new baghouse control system for the BOP furnaces, the Illinois EPA is proposing to authorize changes to conditions the current [CAAPP] permit. . . . This is because this CAAPP permit contains certain requirements for control of the BOP furnaces with the existing ESP that would no longer be feasible, necessary or appropriate when particulate emissions are controlled by the combination of the new baghouse and the ESP control systems. . . . To provide clarity on applicable requirement for the ESP when secondary emissions of the BOP furnaces are controlled by the new baghouse system, it is appropriate that these obsolete conditions be removed from the CAAPP permit.
>
> All of the changes to the current CAAPP permit for the Granite City Works that are proposed to be authorized pursuant to this construction permit are set forth in Part 2 of the draft construction permit.

Project Summary at 13 and 15. (Internal citations omitted.)

13. Part 2 of the Construction Permit includes several of the same contested conditions from Condition 7.5 of the CAAPP Permit that are currently the subject of the CAAPP Permit appeal. As discussed in more detail in Exhibit B to this Petition, U.S

[1] Project Summary/Statement of Basis for the Planned Issuance of a Construction Permit with Integrated Processing* for an Emission Reduction Project for the Existing Basic Oxygen Process Furnaces at United States Steel Corporation's Granite City Works Granite City, Illinois, Illinois EPA (May 2012). *As this application for a construction permit is being processed with "Integrated Processing," it is intended that certain changes, as specifically identified in the construction permit, if one is issued, would be authorized to be made to the Clean Air Act Permit Program (CAAPP) permit for the source by administrative amendment, as provided for by Section 39.5(13)(c)(v) of Illinois' Environmental Protection Act.

Steel is contesting the emission factors and annual NOx and VOM emission limits for BOF Shop Activities in Condition 7.5.6(b) – (g) in Part 2 of the Construction Permit. U.S. Steel is also contesting the failure by Illinois EPA to include a compliance schedule at Condition 7.5.13 for annual NOx and VOM emissions from the BOF Shop, as related to the violation notice issued on November 30, 2012.

14. As explained below, for the same reasons that the emission factors and annual NOx and VOM limits for BOF Shop activities were contested in the CAAPP Permit appeal, U.S. Steel is appealing the same conditions at Conditions 7.5.6 and 7.5.13 in Part 2 of the Construction Permit.[2] The appeal of these conditions in Part 2 of the Construction Permit is intended to be wholly consistent with the appeal of the identical conditions contested in the CAAPP Permit appeal. Further, U.S. Steel is seeking a stay of the contested conditions in Part 2 of the Construction Permit, which is also consistent with the stay of the same contested conditions granted by the Board in the CAAPP Permit appeal.

III. EMISSION FACTORS IN PART 2 OF THE CONSTRUCTION PERMIT ARE NOT EMISSION LIMITS.

A. General Background

15. Part 2 of the Construction Permit is entitled "Changes that are 'Pre-Authorized' to the CAAPP Permit." Exhibit A at 14. As Illinois EPA explained in the

[2] Illinois EPA explained the authority for an appeal of a permit subject to integrated processing: "This permit was processed in accordance with Section 39.5(13)(c)(v) of the Act and 35 IAC 270.302(e) using 'integrated processing', i.e., it was subjected to procedural and compliance requirements substantially equivalent to those for a modification of a CAAPP permit. Any person who participated in the public comment process pursuant to 39.5(8) of the Act or any other person who could obtain judicial review pursuant to 41(a) of the Act, may within 35 days after final permit action petition for a hearing before the Illinois Pollution control Board to contest the attachment to the permit, 'Part 2: Changes that are "pre-authorized" to the CAAPP Permit.'" Notice from Illinois EPA regarding Emission Reduction Project (April 1, 2013).

Project Summary and Statement of Basis, changes to the CAAPP Permit are necessary to accurately reflect operations at the Facility once the baghouse has been constructed. These pre-authorized changes to the CAAPP Permit include "compliance requirements that are substantially equivalent to those that apply to CAAPP permits. . ." Project Summary at 14. Part 2 of the Construction Permit was also issued with the emission factors and annual NOx and VOM emission limits for BOP Shop activities that were originally established through Title I permitting and are currently subject of the CAAPP Permit appeal.

16. CAAPP permits must address emission limits established in preconstruction permits issued under regulations approved by USEPA in accordance with Title I of the CAA as such limits are considered "applicable requirements." U.S. Steel's CAAPP Permit, as well as Part 2 of the Construction Permit, includes conditions from the PSD Permit that was initially issued on January 25, 1996[3] to National Steel, the former owner and operator of the Granite City Works. The PSD Permit addressed an expansion project that included increases in the production of iron from the two existing blast furnaces at the steel mill and an increase in the production of steel from the two existing BOP furnaces.

17. Consistent with the PSD program and regulations in place in 1996, the PSD Permit established maximum production rates for the Blast Furnace Operations, BOF Shop, Continuous Casting Operations, as well as maximum annual emission limits

[3] After the issuance of the PSD Permit in 1996, the permit was subsequently revised several times (on July 23, 1996; October 18, 1996; April 2, 1997; June 6, 1997; January 5, 1999; June 25, 2002; and December 17, 2012). The emission factors established in the PSD Permit in 1996 have remained the same throughout the subsequent revisions to the PSD Permit.

for the related emission units and activities. The PSD Permit also included emission factors, by pollutant, for major processes and activities, including those for BOF activities, as described in Exhibit B.

C. **Emission Factors Are Not Emission Limits**

18. Although not included in Part 2 of the Construction Permit, the CAAPP Permit includes a new Condition 5.13 with new procedures for "emission limits" in which Illinois EPA details that both the emission factors and maximum emissions are "emission limits." Condition 5.13 of the CAAPP Permit states, in relevant part:

> Pursuant to Sections 39.5(7)(b) and (p)(v) of the Act, these procedures are applicable for the emission limits in Conditions 7.1.6(b)(i) through (iv), 7.4.6(b) through (f), 7.5.6(c) through (g) and 7.6.6(a) through (e), which address the rates of emissions or "emission factors" (commonly in pounds/ton) and the annual emissions or "maximum emissions" (in tons/year) of certain emission units . . .

Condition 5.13. (Emphasis added.)

19. Illinois EPA, in the Response to Comments issued with the CAAPP Permit, explained in regards to new Condition 5.13 that emission factors in the subject conditions are emission limits. Illinois EPA stated:

> The initial discussion in new Condition 5.13, the General Procedures for Certain Permit Limits on Emissions, now explicitly indicates that the "emission factors" contained in the subject conditions are emission limits. This change has been made because of the continuing confusion displayed in comments about whether the emission factors in those conditions were limits or fixed values of emissions that US Steel could use to address compliance with the limits in the subject conditions for annual emissions. This change is consistent with the 2012 order as it stated that the Illinois EPA should consider clarifying in the Revised Permit that the emission factors in the subject conditions are, in fact, emission limits. *See*, 2012 Order, pages 8-9.

Response to Comments at 48. (Emphasis added.)

20. Thus, the CAAPP Permit, for the first time, explicitly stated in Condition 5.13 Illinois EPA's interpretation that the emission factors in the contested conditions at Condition 7.5.6, which are included in Part 2 of the Construction Permit, are emission limits.

21. While Illinois EPA asserted that new Condition 5.13 was added to the CAAPP Permit to clarify the purpose of the emission factors, by adding new Condition 5.13[4] to the 2013 CAAPP Permit, Illinois EPA fundamentally changed the contested conditions at Condition 7.5.6(c)-(g) in Part 2 of the Construction Permit by stating that the emission factors, originally established in the PSD Permit, are emission limits. The assertion that the new language at Condition 5.13 of the CAAPP Permit is merely a "clarification" does not comport with Illinois EPA's own language that the "change" in the permit is to "now explicitly" indicate that the emission factors are emission limits.

22. In addition, some of the emission factors that Illinois EPA refers to as limits by way of Condition 5.13 of the CAAPP Permit were derived from AP-42, Compilation of Air Pollutant Emission Factors. In AP-42, USEPA clearly states that AP-42 emission factors are "generally assumed to be representative of long-term averages for all facilities in the source category."[5] In AP-42, USEPA also states that

[4] Condition 5.13 states that certain emission factors are emission limits. However, it establishes a procedure by which U.S. Steel must review and update emission factors that it is using, which indicates that the emission factors are factors and not emission limits, since a permittee is not allowed to revise its own limits.

[5] Emission Factors & AP-42, Compilation of Air Pollutant Emission Factors, available at www.epa.gov/ttnchie1/ap42 (April 3, 2013).

"[e]mission factors in AP-42 are neither EPA-recommended emission limits . . . nor standards . . ."[6] USEPA clarifies:

> [u]se of emission factors as source-specific permit limits and/or as emission regulation compliance determinations is not recommended by EPA. Because emission factors essentially represent an average of a range of emission rates, approximately half of the subject sources will have emission rates greater than the emission factor and the other half will have emission rates less than the factor. As such, a permit limit using an AP-42 emission factor would result in half of the sources being in noncompliance.[7]

In short, USEPA clearly articulates that AP-42 emission factors are indeed emission estimates. This is consistent with how Illinois EPA determined the annual emission limits – by using the AP-42 emission factor as the average.

23. The use of emission factors as limits is generally rejected by USEPA. In an order responding to a petition to object to a Title V permit, USEPA plainly states:

> [a]n AP-42 emission factor is a value that roughly correlates the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant. The use of these emission factors may be appropriate in some permitting applications, such as establishing operating permit fees. However, EPA has stated that AP-42 factors do not yield accurate emissions estimates for individual sources. *See In the Matter of Cargill, Inc.*, Petition IV-2003-7 (Amended Order) at 7, n.3 (Oct. 19, 2004). Because emission factors essentially represent an average of a range of facilities and of emission rates, they are not necessarily indicative of the emissions from a given source at all times; with a few exceptions, use of these factors to develop source-specific permit limits or to determine compliance with permit requirements is generally not recommended.

Order Denying in Part and Granting in Part A Petition for Objection to Permit, *In the Matter of Chevron Products Company, Richmond, California Facility*, Petition No. IX-2004-08 at 23-24 (March 2005). In *Chevron*, USEPA also explains that a single emission factor that

[6] Compilation of Air Pollutant emission Factors Volume I: Stationary Point and Area Sources, Fifth Edition at 2, USEPA (Jan. 1995). (Emphasis in the original.)

[7] *Id.*

was developed to represent *long-term average emissions* is not necessarily predictive of determining compliance at any *specific* time. *Id.*

24. Some of the emission factors[8] from the 1996 PSD Permit that are incorporated into the CAAPP Permit and Part 2 of the Construction Permit have low emission factor ratings.[9] For example, the Hot Metal Desulfurization and Hot Metal Transfer emission factor for VOM at Condition 7.5.6(e) is derived from the AIRS compilation of emission factors, which are rated as "E" quality factors based on the AP-42 rating scale.[10] Since no data were available at the time of the PSD permit application and issuance, the emission factor for VOM was based on an emission factor with a rating of "poor," which means that the factor was based on limited data. It is unreasonable now, more than 15 years later, to claim that the use of an "E" rated emission factor in a permit application and referred to in the CAAPP permit and in Part 2 of the Construction Permit is intended to be a short term emission limit. Since no data were available at the time of

[8] Some emission factors in the 1996 PSD Permit are derived from historical stack tests conducted many years ago, and accordingly, outdated stack testing data should not be considered emission limits because the emission factors established by the tests are averages. For example, in the case of the iron spout baghouse, the SO2 emission factor (0.0073 lb/ton) at Condition 7.4.6(f) of the CAAPP Permit is based on an average of three one-hour test runs, at which time, several parameters were tested to develop the emission factor. The SO2 emission factor is an average, where two of the test runs were above the 0.0073 lb/ton SO2 factor, which was ultimately included in the PSD Permit. Illinois EPA used the SO2 emission factor established during the stack testing to determine anticipated average emissions, which were then used as the basis for annual emission limits. Moreover, even in cases where stack test data are used to establish emission limits, it is usual and customary (even in 1996) to apply an operations contingency or "safety" factor to account for expected variability in operations and process parameters, such as temperature. The emission factors established by stack testing were intended to be only factors and not limits, as Illinois EPA has interpreted, because the factors are based on an average developed during multiple test runs.

[9] Emission factor ratings in AP-42 provide indications of the robustness, or appropriateness, of emission factors *for estimating average emissions* for a source activity.

[10] AP-42 rates emission factors using letters: A (Excellent), B (Above Average), C (Average), D (Below Average), and E (Poor).

permit application preparation and issuance, it was, at the time, reasonable to use the emission factor to estimate annual emissions.

25. Accordingly, Illinois EPA's inclusion of the emission factors at Condition 7.5.6(c)-(g) in Part 2 of the Construction Permit was arbitrary, capricious and not supported by the Act or Board regulations, as discussed above and detailed in the CAAPP Permit appeal.

IV. A COMPLIANCE SCHEDULE SHOULD BE INCLUDED IN PART 2 OF THE CONSTRUCTION PERMIT.

26. On November 30, 2012, Illinois EPA issued VN No. A-2012-00169, attached hereto as Exhibit C, to U.S. Steel alleging violations of the NOx and VOM annual limits for the BOF and associated electrostatic precipitator ("ESP") in Condition 7.5.6(c) of U.S. Steel's 2011 CAAPP Permit. Illinois EPA also alleged a violation of the NOx and VOM emission factors stating that the Facility "caused or allowed the emissions of NOx and VOM in excess of the emission limits of 0.0389 lb/ton and 0.006 lb/ton, respectively." *See* Exhibit C.

27. On January 30, 2012, U.S. Steel submitted to Illinois EPA a detailed compliance plan/schedule for future stack testing and permitting in order to establish appropriate NOx and VOM annual emission limits for the BOF and ESP. U.S. Steel requested that the compliance plan/schedule be incorporated into the CAAPP Permit. U.S. Steel's proposed compliance plan/schedule is attached hereto as Exhibit D.

28. U.S. Steel submitted comments (Exhibit E) during the public comment period on the Public Notice Draft of the CAAPP Permit. Although Illinois EPA had made the preliminary decision not to include U.S. Steel's proposed compliance schedule

in the planned revisions to the CAAPP Permit, U.S. Steel explained in its comments that the Act and the regulations promulgated thereunder require that a compliance schedule be included in the CAAPP Permit, since stack testing demonstrated that U.S. Steel cannot comply with the annual maximum emission limits at Condition 7.5.6(c). *See* Exhibit E for U.S. Steel's discussion detailing why a compliance schedule should be included in the CAAPP Permit.

29. Because Part 2 of the Construction Permit addresses the same contested conditions at Condition 7.5.6(c) and 7.5.13 that are the subject of the CAAPP Permit appeal, the compliance schedule requested by U.S. Steel for annual NOx and VOM emission limits from BOP Shop activities should also have been included in Part 2 of the Construction Permit.

30. In addition to the Act's requirements for compliance schedules, Section 504(a) of the CAA, 42 U.S.C. § 7661c(a), requires compliance schedules in CAAPP permits. Section 504(a) states:

> Each permit issued under this subchapter shall include enforceable emission limitations and standards, a schedule of compliance, a requirement that the permittee submit to the permitting authority, no less often than every 6 months, the results of any required monitoring , and such other conditions as are necessary to assure compliance with applicable requirements of this chapter, including the requirements of the applicable implementation plan.

42 U.S.C. § 7661c(a). (Emphasis added.)

31. Based on the above provisions, CAAPP permits, including Part 2 of the Construction Permit, are required to include compliance schedules for emission units that are not in compliance with applicable requirements of the permit at the time of issuance.

Illinois EPA stated that it was too soon to determine non-compliance based on the issuance of the VN to U.S. Steel because the enforcement process is only in the beginning stages. Illinois EPA also noted that other considerations and information needs to be taken into account prior to revising the CAAPP Permit to include a compliance schedule. However, U.S. Steel's January 30, 2013 letter requesting a compliance schedule clearly explained that data from the last two stack tests demonstrated "that the BOF ESP cannot maintain compliance with the current emission limits for NOx and VOM." *See* Exhibit D.

32. Thus, U.S. Steel concluded that, based on stack test data, that it cannot comply with certain permit requirements that were expected to be, and in fact were, included in the CAAPP Permit. Accordingly, in its February 14, 2013 comments on the draft CAAPP Permit, U.S. Steel requested that a compliance schedule be included in the CAAPP Permit and requested Illinois EPA reconsider its position on the issue. Furthermore, U.S. Steel requested that Illinois EPA include the requested compliance schedule at a new Condition 7.5.13 in the 2013 CAAPP Permit, as well as add a Note (*) after existing Condition 7.5.6(c) as follows:

> * These limits have been addressed by the compliance schedule established for compliance with these factors and limits. (See Condition 7.5.13).

Exhibit E at 3.

33. Because of the integrated processing of the Construction Permit, Part 2 of the Construction Permit is viewed as authorized changes to a CAAPP permit, and thus, because a compliance schedule was not included at Condition 7.5.13 and the note was not

included at Condition 7.5.6(c) in Part 2 of the Construction Permit, U.S. Steel is contesting the NOx and VOM annual maximum emissions at Condition 7.5.6(c), since these conditions are subject to the aforementioned CAAPP Permit appeal and corresponding stay.

34. U. S. Steel is also contesting Condition 7.5.6(c) to the extent the emission factors provided therein are considered "emission factor limits" pursuant to Condition 5.13 of the CAAPP Permit, which like the emission factors in Condition 7.5.6(c) is subject to the CAAPP Permit appeal and the stay of contested conditions granted by the Board on May 2, 2013.

35. The corresponding annual emission limits for NOx and VOM for BOF Shop emissions at Condition 7.5.6(b) in Part 2 of the Construction Permit are based on the BOF ESP Stack maximum annual emissions at Condition 7.5.6(c) in Part 2 of the Construction Permit, and accordingly, the annual emission limits at Condition 7.5.6(b) in Part 2 of the Construction Permit are also being contested since U.S. Steel has concluded, based on stack testing, that it cannot comply with the annual NOx and VOM emission limits for the BOF Shop.

WHEREFORE, Petitioner, UNITED STATES STEEL CORPORATION petitions the Board for a hearing on the Illinois EPA's final action on the Construction Permit with respect to the permit conditions and issues referenced herein, and a determination that the Illinois EPA's action was arbitrary, capricious and not supported by the Act or Board regulations. In addition, as set forth in the accompanying Motion, U.S. Steel requests that the Board stay the contested conditions of the Construction Permit during the

pendency of the review process. U.S. Steel reserves the right to amend this Petition as necessary in order to raise newly discovered issues arising from the Construction Permit and/or to provide additional specificity regarding the conditions of the Construction Permit, if required by the Board.

Respectfully submitted,

UNITED STATES STEEL CORPORATION,
Petitioner,

Dated: May 6, 2013

By: /s/ Katherine D. Hodge
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217/785-1705

CONSTRUCTION PERMIT
(SUBJECT TO INTEGRATED PROCESSING)

PERMITTEE

United States Steel Corporation - Granite City Works
Attn: Bryan Kresak, Environmental Director
1951 State Street
Granite City, Illinois 62040

Application No.: 11050006 I.D. No.: 119813AAI
Applicant's Designation: Date Received: November 16, 2011
Subject: Emission Reduction Project
Date Issued: April 1, 2013
Location: 1951 State Street, Granite City, Madison County

This Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of an emission reduction project for charging and tapping of the two existing basic oxygen process furnaces (BOPFs), as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the findings and conditions in Part 1 of this Permit.

This Permit also authorizes the Clean Air Act Permit Program (CAAPP) permit for the source (Permit 96030056) to be revised by administrative amendment, in accordance with Section 39.5(13)(c)(v) of the Environmental Protection Act (Act). This is because this Permit was subject to "Integrated Processing," i.e., this Permit was subject to procedural requirements and includes compliance requirements that are substantially equivalent to those that apply to CAAPP permits. This was done because certain provisions in CAAPP Permit 96030056 will no longer be appropriate or necessary with this emission reduction project, when particulate emissions from tapping and charging of the BOPFs are controlled with a new baghouse control system. The specific revisions that may be made by administrative amendment to Permit 96030056 pursuant to this Permit are set forth in Part 2 of this Permit.

If you have any questions on this Permit, please contact Kevin Smith at 217/785-1705.

Edwin C. Bakowski, P.E. Date Signed: .....
Manager, Permit Section
Division of Air Pollution Control

ECB:KLS:psj

cc: FOS - Region 3, Illinois EPA
CAAPP Permit File - 96030056

EXHIBIT A

PART 1: FINDINGS AND CONDITIONS FOR THE CONSTRUCTION PERMIT

FINDINGS

1. Introduction

a. This permit authorizes an emission reduction project for particulate emissions from the two existing Basic Oxygen Process Furnaces at the source. The project involves installation of a new control system for emissions of particulate from charging and tapping of these furnaces. The existing electrostatic precipitator (ESP) would continue to be used to control particulate emissions from these furnaces from refining.

This project will include the following elements:

* Installation of a baghouse with a nominal capacity of 900,000 actual cubic feet per minute.
* Upgrade of the existing local capture hoods for charging and installation of new ductwork to connect to the new baghouse rather than to the existing ESP.
* Installation of local capture hoods for tapping and ductwork to connect to the new baghouse.
* Installation of dampers, actuators, automated operating system and other equipment associated with the new ductwork.
* Repairs and upgrades to the enclosures at each BOPF.

b. For the purpose of this construction permit:

i. The "BOPFs" are the two existing Basic Oxygen Process Furnaces or Basic Oxygen Furnaces (BOFs) at the Granite City Works.

ii. The "BOPF baghouse" is the new baghouse for control of emissions from charging and tapping of the BOPFs.

iii. The "BOPF baghouse system" is the new control system for control of emissions from charging and tapping of the BOPFs, including the capture hoods, ductwork and the BOPF bagouse.

2. Integrated Processing

a. With this emission reduction project, when particulate emissions from tapping and charging of the BOPFs are controlled with the BOPF baghouse system, certain requirements in the CAAPP Permit for the source that currently address the BOPFs and the existing ESP control system would no longer be appropriate or necessary. This is because particulate emissions would also be controlled by the BOPF baghouse system. In particular, use of flame suppression to control emissions from tapping would no longer be practical because of the presence of induced draft from the local capture hoods. The BOPF baghouse system would also be designed with the capacity to control particulate emissions from tapping

of one BOPF and charging of the other BOPF at the same time so that certain portions of tapping and charging of the BOPFs and oxygen blowing of the BOPFs do not have to be staggered.

b. To make these consequences of this project for the future operation of the BOPFs clear and certain at the time that this construction permit was issued, this permit was subject to Integrated Processing pursuant to Section 39.5(13)(c)(v) of the Act and 35 IAC 270.302(e). In particular, this permit was subject to procedural requirements that are substantially equivalent to those that apply to CAAPP permits, including a public comment period and review of a proposed permit by USEPA. This permit also includes compliance requirements that are substantially equivalent to those that apply to CAAPP permits, e.g., it provides for Periodic Monitoring for the BOPF baghouse system. The specific changes to the CAAPP permit for the source (Permit 96030056) that may be made by administrative amendment pursuant to this construction permit to address operation of the BOPFs with the BOPF baghouse are set forth in Part 2 of this permit.

3. Applicable Regulatory Requirements

a. This permit does not affect applicable emission standards for the BOPFs, including associated control equipment, as set forth in the CAAPP permit for the source, Permit 96030056, including the following:

i. Applicable emission standards of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Manufacturing Facilities, 40 CFR 63 Subpart FFFFF, including standards for both captured and uncaptured emissions.

ii. Applicable state emission standards in 35 IAC 212.446 and related provisions pursuant to 35 IAC Part 201 Subpart I that address operation of the BOPFs during malfunction or breakdown.

b. When the BOPF baghouse control system begins to operate and the existing ESP control system is only controlling primary particulate emissions of the BOPFs, the capture systems in the ESP control system would not be subject to operational requirements of the NESHAP, including operating parameter limits and associated operational monitoring. However, this construction permit would continue to impose such requirements on the capture systems in the ESP control system. (See Condition 1(c)(ii).)

4. Non-Applicability Provisions

a. This permit is issued based on this project not constituting a major modification subject to Prevention of Significant Deterioration (PSD), 40 CFR 52.21, or Major Stationary Sources

Construction and Modification (MSSCAM), 35 IAC Part 203. This is because this project is an emission reduction project that will reduce particulate emissions and will not act to increase production or emissions of any pollutants from the BOPFs.

b. This permit is issued based on this project, as described in the application, not constituting a modification of the BOPFs under the federal New Source Performance Standards (NSPS), 40 CFR 60 Subpart Na, as the project has the primary function of reducing emissions and therefore is not a modification pursuant to 40 CFR 60.14(e)(5).

CONDITIONS

1. Operational Requirements

a. The design capacity of the BOPF baghouse shall be at least 900,000 acfm, so as to be able to simultaneously control tapping of one BOPF and charging of the other and to control the simultaneous tapping of both BOPFs.

b. The Permittee shall prepare and submit to the Illinois EPA its initial revisions to the plans for the BOPFs required by the NESHAP, 40 CFR 63 Subpart FFFFF (i.e., the operation and maintenance plan required by 40 CFR 63.7800(b) and the startup, shutdown and malfunction plan required by 40 CFR 63.7810(c)) to address the BOPF baghouse system at least 30 days in advance of initial operation of the BOPFs with this system.

c. When the BOPF baghouse control system begins to operate:

i. The Permittee shall not conduct refining simultaneously in both BOPFs unless this mode of operation is authorized by an appropriate construction permit.

ii. The Permittee shall continue to operate the ESP capture systems in accordance with applicable operational requirements of the NESHAP for capture systems for secondary emissions from BOPFs (e.g. 40 CFR 63.7800(b)(1) and (3)), even though the ESP only controls primary emissions from the BOPFs.

d. After the shakedown of the BOPF baghouse system is complete and in no case later than six months after initial operation of the BOPFs with the BOPF baghouse system, the existing ESP shall only be used for control of emissions from charging and tapping of the BOPFs during an extended outage of the BOPF baghouse.

2. Emission Limit

a. Following completion of the shakedown period for the BOPF baghouse system, the emissions of particulate matter (PM) from the BOPF baghouse, as would be measured by USEPA Method 5, 5D or

17, shall not exceed 0.005 grains per dry standard cubic foot (gr/dcsf).

3-1. Emission Testing Requirements

a. The Permittee shall have emissions testing conducted for the BOPF baghouse and the existing ESP by a qualified testing service as follows:

i. A performance test for PM emissions shall be conducted within 180 days of initial operation of the BOPFs with the BOPF baghouse system, unless this is prevented by *force majeure* event(s), in which case, testing shall be conducted as soon as practicable after the force majeure event occurs.* This performance test shall be conducted in accordance with 40 CFR 63.7824(c) to verify compliance with applicable emission limits for PM set by the NESHAP and this permit and to establish new operating limits for the capture systems for the BOPFs pursuant to the NESHAP and this permit. For this purpose, performance testing shall be conducted for operation of the BOPFs with the BOPF baghouse and ESP systems.

* If testing is or will be delayed because of event(s) that the Permittee considers to constitute force majeure, the Permittee shall notify the Illinois EPA, as set forth by 40 CFR 63.7(a)(4).

ii. A. A further test for PM emissions and tests for emissions of filterable PM_{10} and $PM_{2.5}$, condensable particulate matter, lead, NO_x, CO and VOM shall be conducted within one year of initial operation of both BOPFs with charging and tapping controlled by the BOPF baghouse system. The measurements for emissions of PM and other pollutants required by these tests and the tests required by Condition 3-1(a)(iii) may be combined with other measurements required for the BOPFs if measurements are conducted within the time periods specified by these conditions. In conjunction with this emission testing, the Permittee shall conduct or have conducted measurements as necessary to evaluate the actual operation and capture efficiency achieved by the hoods for charging and tapping as compared to their design. These tests and measurements shall be the basis of the Project Report required by Condition 6(d) for the BOPF baghouse system.

B. Notwithstanding the above, testing for emissions of NO_x, CO or VOM from the BOPF baghouse need not be conducted if preliminary measurements for the pollutant indicate emissions are below the detection limit of the applicable test method.

iii. A follow-up test for emissions of PM, filterable PM_{10} and $PM_{2.5}$, condensable particulate matter and lead shall be conducted between 24 and 36 months of the completion of the emission testing required by Condition 3-1(a)(ii).

b. i. Testing for PM emissions shall be conducted using applicable methods and procedures specified by the NESHAP.

ii. Applicable USEPA test methods and procedures shall be used for testing of emissions of pollutants other than PM, including the following methods for measurement of the emissions of different pollutants, unless other methods are approved by the Illinois EPA as part of the approval of a test plan. Refer to 40 CFR 60, Appendix A, and 40 CFR 51, Appendix M, for USEPA test methods.

Filterable PM_{10} and $PM_{2.5}$	Method 201A
Condensable Particulate Matter	Method 202
Lead	Method 29
Nitrogen Oxides	Method 7E
Carbon Monoxide	Method 10
Volatile Organic Material	Method 25A

iii. During all test runs for emissions of PM and filterable PM_{10} and $PM_{2.5}$ required by Condition 3-1(a), observations of the opacity of the exhaust from the roof monitor of the BOPF shop shall also be conducted in accordance with applicable methods and procedures of the NESHAP, including 40 CFR 63.7823(d), and information recorded on the timing of charging, refining, tapping and deslagging of each BOPF, so opacity data may be correlated with the operation of the BOPFs.

c. The Permittee shall submit a written plan to the Illinois EPA for review and comment for this testing. This plan shall be submitted at least 60 days prior to the actual date of testing and include the following information at a minimum:

i. A description of the planned emission test.

ii. The person(s) who will be performing sampling and analysis and their experience with similar tests.

iii. The specific operating conditions under which testing will be performed, including a discussion of why these conditions will appropriately address operation of the BOPFs and associated control systems and the levels of operating parameters of the control systems at or within which compliance is intended to be shown.

iv. The specific determination of emissions intended to be made, including sampling and monitoring locations.

v. The test methods that will be used, with the specific analysis method.

vi. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification.

vii. A statement that the testing will be performed by a qualified independent testing service.

viii. If preliminary measurements will be made for emissions of NO_x, CO, or VOM from the BOPF baghouse, to determine whether emissions are below the detection limit of the applicable test method, a description of the proposed approach to such measurements.

d. i. Prior to carrying out each set of emission tests, the Permittee shall notify the Illinois EPA a minimum of 30 days prior to the scheduled date of these tests with the exact date and time that testing would begin, to enable the Illinois EPA to witness these tests.

ii. If the scheduled date for testing is changed, the Permittee shall inform the Illinois EPA within 5 working days of the new date and time for testing.

iii. Notwithstanding the above, the Illinois EPA may, at its discretion, accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe testing.

e. The Permittee shall submit three copies of the Final Report(s) for emissions tests to the Illinois EPA no later than 60 days after completion of sampling. The Final Report shall include at a minimum:

i. General information, i.e., date of test, names of testing personnel, and names of Illinois EPA observers.

ii. A summary of the measured emissions in pounds per hour, lbs/ton steel and, for particulate matter, in gr/dscf.

iii. Detailed data for operating parameters of the control system during testing, including data recorded by the operational monitoring systems and, as applicable, proposed operating parameter limits based on the emission testing.

iv. Description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule.

v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.

vi. A comparison of measured data to applicable emission standards and limits and a statement whether compliance was demonstrated.

vii. The data for opacity of the exhaust through the roof monitor of the BOPF shop during testing and the timing of charging, refining, tapping and deslagging of the BOPFs, as determined and recorded pursuant to Condition 3-1(b)(iii), accompanied by copies of the certification(s) pursuant to USEPA Method 9 of the individual(s) who made the observations of opacity.

viii. If emission testing for NO_{x}, CO or VOM from the BOPF baghouse was not conducted, as provided for by Condition 3-1(a)(ii)(B), documentation for the preliminary measurements that show emissions are below the detection limit of the applicable test method.

f. The Permittee shall retain copies of these reports for these emission tests for at least five years beyond the date that an emission test report is superseded by subsequent testing for all pollutants.

3-2. Requirements for Opacity Observations from the BOPF Shop

a. The Permittee shall conduct opacity observations for the BOPF shop as follows, while the capture systems for the BOPFs are operated, as practicable, at minimum values of the operating parameters at which the Permittee normally expects to operate these systems.

i. Observations shall be promptly conducted following initial operation of the BOPFs with the BOPF baghouse system.

ii. Thereafter, until the performance testing required by Condition 3-1(a)(i) is conducted, these observations shall be conducted at least every 15 operating days of the BOPFs.

b. These observations shall be conducted in accordance with 40 CFR 63.6(h)(5) and 63.7823(d). As these observations must extend over at least three steel production cycles pursuant to 40 CFR 63.7823(d)(ii), opacity observations that the Permittee is otherwise required to conduct for the BOPF Shop may provide a portion of these observations.

c. The Permittee shall submit individual reports to the Illinois EPA for these opacity observations, which reports shall be submitted within 10 days of the date of observations. In addition to relevant information for reports for opacity observations, these reports shall include the actual values of the operating

parameters of the capture systems for the BOPF that were monitored during each steel production cycle for which observations were conducted.

3-3. Additional Testing Requirements

a. In conjunction with the emission testing required by Condition 3-1(a)(ii) or (iii), the Permittee shall conduct or have conducted measurements as necessary for a determination of the PM control efficiency of the BOPF baghouse during normal operation of the BOPFs, including associated control systems, which efficiency may be determined either "directly" (e.g., by measurements of the PM loading at the inlet of the BOPF baghouse for comparison to the measured PM emission rate) or "indirectly" (e.g., by recordkeeping for the amount of material collected by this baghouse over a week or month, to determine an average collection rate per hour or per steel production cycle, for comparison to the measured emission rate).

b. These measurements and the determination of the PM control efficiency of the BOPF baghouse, in percent, shall be included in the relevant report for emission testing pursuant to Condition 3-1(e).

4. Monitoring and Instrumentation Requirements

a. The Permittee shall fulfill applicable monitoring requirements of the NESHAP, 40 CFR 63 Subpart FFFFF, for the BOPF baghouse system, including:

i. Monitoring, as required by 40 CFR 63.7800(b)(3) and 63.7830(a), for selected operating parameters of each capture system that are appropriate for its design and representative and reliable indicators of the performance of the capture system. At a minimum, the selected parameters must include parameters that indicate the level of the ventilation draft and the damper position settings for the capture system when operating to collect emissions, including revised settings for seasonal variations. The selection of operating parameters must be supported by documentation in the revised operation and maintenance plan for the BOPFs.

ii. Operating a bag leak detection system on the BOPF baghouse, as required by 40 CFR 63.7830(b)(1) and 63.7833(c)(1) and (4), with timely initiation of appropriate corrective action(s) in the event that the bag leak detection system alarm is triggered and fulfillment of associated recordkeeping and reporting requirements.

iii. The Permittee shall make its initial revisions, as needed to address the BOPF baghouse system, to the site-specific monitoring plan for the BOPFs required by 40 CFR

63.7831(a), at least 30 days in advance of initial operation of the BOPFs with the BOPF baghouse system.

b. The Permittee shall monitor the following operating parameters for the BOPF baghouse system if not otherwise monitored pursuant to the NESHAP. For this purpose, the Permittee may either directly monitor these parameters or indirectly derive and automatically record data for these parameters from other operating parameters that are continuously monitored.

i. The actual volumetric flow rate, in cubic feet per minute (acfm), through each separately ducted hood.

ii. The actual volumetric flow rate (acfm) at the inlet to the baghouse.

c. When the BOPF baghouse control system begins to operate and the ESP is only controlling primary emissions, the Permittee shall continue to conduct operational monitoring for the capture systems associated with the ESP in accordance with relevant monitoring requirements of the NESHAP (e.g., 40 CFR 63.7830(a) and 63.7831(e)), even though the ESP only controls primary emissions of the BOPFs.

5. Recordkeeping Requirements

a. The Permittee shall maintain a file or other records that contain the following information for the BOPF baghouse system:

i. Design data for the capture hoods for charging and tapping, including the analysis for the levels of capture achieved by the hoods for emissions of particulate, i.e., percentages of total emissions from charging and tapping that are collected and directed to the BOPF baghouse.

ii. The manufacturer's specifications for the capacity (acfm and scfm) and particulate emissions (gr/dscf) of the BOPF baghouse and the manufacturer's recommended operating and maintenance procedures for this baghouse.

b. After charging and tapping of both BOPFs first begin to be controlled with the BOPF baghouse system, the Permittee shall keep records of the following information for the BOPFs. The preparation of these records by the Permittee may be automated or these records may be prepared manually or by a combination of manual and automated methods. These records may be combined with other records that are kept by the Permittee for the BOPFs.

i. Records for the BOPFs for the total number of steel production cycles per day (24-hours).

ii. Records for the following information, as calculated from data monitored pursuant to Condition 4(b):

A. The average flow rate through each separately ducted hood for each BOPF for each steel production cycle (acfm).

B. The average flow rate at the inlet to the BOPF baghouse per steel production cycle (acfm/cycle), daily (24-hour) average.

C. The average flow rate at the inlet to the ESP per steel production cycle (acfm/cycle), daily (24-hour) average.

c. After tapping and charging of both BOPFs first begin to be controlled with the BOPF baghouse system, the Permittee shall keep records for periods when charging or tapping of a BOPF is not controlled by this system, including a description of the event, the probable cause(s) of the event, the remedial action(s) taken and any measure(s) taken to prevent similar events in the future.

d. The Permittee shall retain records required by this permit and make them available to the Illinois EPA and USEPA in accordance with Conditions 5.9.6(a) and (b) of the CAAPP permit for the source, Permit 96030056.

6. Reporting Requirements

a. The Permittee shall notify the Illinois EPA of the following events with respect to the design, construction and shakedown of the BOPF baghouse system:

i. Finalization of the design for the BOPF baghouse, within 15 days of the date that this occurs, which notification shall include the following information: total filter area, number of compartments, number of bags and dimensions and the selected filter material with performance specifications.

ii. The planned date for initial operation of the BOPF(s) with the BOPF baghouse system, at least 5 days in advance, which notification shall also include the date on which it is expected that the opacity observations required by Condition 3-2(a)(i) will be conducted. If operation with this system will be phased, i.e., the emissions from charging and tapping of both BOPFs will not initially all be controlled by this system, this notification shall include the planned schedule for phase-in of control of emissions by this system.

iii. The date that tapping and charging of both BOPFs are initially controlled with the BOPF baghouse system, no later than 30 days after this date.

iv. The date that the shakedown of the BOPF baghouse system is completed, no later than 30 days after this date.

b. The Permittee shall notify the Illinois EPA of periods, if any, during the construction of the BOPF baghouse system that would be accompanied by extended interruptions in the operation of the BOPFs (i.e., interruptions whose expected duration would be longer than 72 hours). For this purpose, the Permittee may provide a separate notice in advance of each such period, with the notice submitted at least 5 days in advance, if possible, or otherwise as soon as practical. Alternatively, the Permittee may provide copies of the schedules for the construction of the BOPF baghouse system identifying such periods, with a schedule initially submitted within 10 days of the initial development of the schedule and revised schedules submitted within 15 days of substantial revisions to the schedule. These notifications need only be submitted to the Illinois EPA's Regional Office in Collinsville and may be submitted either by facsimile or by electronic mail.

c. After the shakedown of the BOPF baghouse system is complete, the Permittee shall notify the Illinois EPA if the ESP will be used for control of emissions from charging and tapping of the BOPFs, with description of the planned use of the ESP and explanation.

d. Within 18 months of the date that tapping and charging of both BOPFs are initially controlled with the BOPF baghouse system, the Permittee shall submit a Project Report to the Illinois EPA that evaluates the emissions of particulate (as PM_{10} and $PM_{2.5}$) and lead from the BOPFs with the BOPF baghouse system. This one-time report shall include the following:

i. An assessment of the actual levels of capture (percent) that are achieved for emissions from charging and tapping, during normal operation of the BOPFs and control systems.

ii. An assessment of overall emissions of particulate matter and lead from the BOPFs on a short-term basis (in lbs/hour and lbs/ton of steel), with typical and maximum emission rates, for normal operation.

iii. A review of the probable effect of upsets in the operation of the BOPF baghouse system on the short-term emissions of the BOPFs, considering upsets that have been experienced.

iv. An assessment of the distribution of emissions of particulate and lead from the BOPFs between the ESP, BOPF baghouse and roof monitor (uncaptured emissions) on a short-term basis, with the typical distribution of emissions, the distribution of emissions with maximum emissions at the roof monitor, and the distribution of emissions with maximum emissions at the ESP, all for normal operation.

vi. An assessment of the actual reductions in annual emissions of particulate matter (tons/year) from the BOPFs that should be achieved with the BOPF baghouse system.

vii. An assessment of the typical range of opacity from the roof monitor during tapping of a single BOPF, charging of a single BOPF, overlapping tapping and charging of the BOPFs, and periods of operation other than charging and tapping.

viii. Appropriate data and analysis to support the above assessments.

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PART 2: CHANGES THAT ARE "PRE-AUTHORIZED" TO THE CAAPP PERMIT

Provisions of CAAPP Permit 96030056 (abridged)
Marked to Show the Changes That May Be Made to the Provisions by
Administrative Amendment Pursuant to Integrated Processing

These changes may only be made after the Permittee has confirmed its intention to proceed with this emission reduction project as described in the application for this construction permit and as addressed by Part 1 of this permit.

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Changes to the Table of Contents

TABLE OF CONTENTS

1.0 **INTRODUCTION**

1.1 Source Identification
1.2 Owner/Parent Company
1.3 Operator
1.4 Source Description
1.5 Title I Conditions

2.0 **LIST OF ABBREVIATIONS AND ACRONYMS COMMONLY USED**

3.0 **CONDITIONS FOR INSIGNIFICANT ACTIVITIES**

3.1 Identification of Insignificant Activities
3.2 Compliance with Applicable Requirements
3.3 Addition of Insignificant Activities

4.0 **SIGNIFICANT EMISSION UNITS AT THIS SOURCE**

5.0 **OVERALL SOURCE CONDITIONS**

5.1 Applicability of Clean Air Act Permit Program (CAAPP)
5.2 Area Designation
5.3 Source-Wide Applicable Provisions and Regulations
5.4 Source-Wide Non-Applicability of Regulations of Concern
5.5 Source-Wide Control Requirements and Work Practices
5.6 Source-Wide Production and Emission Limitations
5.7 Source-Wide Testing Requirements
5.8 Source-Wide Monitoring Requirements
5.9 Source-Wide Recordkeeping Requirements
5.10 Source-Wide Reporting Requirements
5.11 Source-Wide Operational Flexibility/Anticipated Operating Scenarios
5.12 Source-Wide Compliance Procedures

6.0 **CONDITIONS FOR EMISSIONS CONTROL PROGRAMS**

7.0 **UNIT SPECIFIC CONDITIONS FOR SPECIFIC EMISSION UNITS**

7.1 Material Handling and Processing Operations
7.2 Coke Production
7.3 Coke By-Product Recovery Plant and COG Desulfurization System
7.4 Blast Furnaces
7.5 Basic Oxygen Processes (See note at the end of the Table of Contents)
7.6 Continuous Casting
7.7 Hot Strip Mill Reheat Furnaces
7.8 Finishing Operations

7.9 Wastewater Treatment Plant
7.10 Boilers
7.11 Internal Combustion Engine
7.12 Gasoline Storage and Dispensing
7.13 Fugitive Dust

8.0 **GENERAL PERMIT CONDITIONS**

8.1 Permit Shield
8.2 Applicability of Title IV Requirements
8.3 Emissions Trading Programs
8.4 Operational Flexibility/Anticipated Operating Scenarios
8.5 Testing Procedures
8.6 Reporting Requirements
8.7 Title I Conditions

9.0 **STANDARD PERMIT CONDITIONS**

9.1 Effect of Permit
9.2 General Obligations of Permittee
9.3 Obligation to Allow Illinois EPA Surveillance
9.4 Obligation to Comply with Other Requirements
9.5 Liability
9.6 Recordkeeping
9.7 Annual Emissions Report
9.8 Requirements for Compliance Certification
9.9 Certification
9.10 Defense to Enforcement Actions
9.11 Permanent Shutdown
9.12 Reopening and Reissuing Permit for Cause
9.13 Severability Clause
9.14 Permit Expiration and Renewal
9.15 General Authority for the Terms and Conditions of this Permit

10.0 ATTACHMENTS

1 Example Certification by a Responsible Official
2 Emissions of Particulate Matter from Process Emission Units

Note: This permit has two version of Section 7.5, which contains the unit-specific conditions for the Basic Oxygen Processes. The first version reflects the "current version" of Section 7.5, as was also present in the previous CAAPP permit for the source. This version of Section 7.5 only applies until a new baghouse control system that is part of an emission reduction project for the Basic Oxygen Process Furnaces (BOPFs) begins operation to control particulate emissions of these furnaces. The second version of Section 7.5 addresses the future operation of the BOPFs with the new baghouse control system and will become applicable when the new baghouse system begins operation to control emissions of these furnaces, superseding the first version of Section 7.5.

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Changes to Current Section 7.5 of the CAAPP Permit (abridged)

7.5 Basic Oxygen Processes - Version 1

Note: This is the first version of Section 7.5 in this permit. This version only applies until a new baghouse control system that is part of an emission reduction project for the Basic Oxygen Process Furnaces (BOPFs) begins operation to control particulate emissions of these furnaces. At such time, the second version of Section 7.5 will become applicable, superseding this version of Section 7.5. (See Condition 7.5.15.)

(No changes to Conditions 7.5.1 through 7.5.14)

7.5.15 Transition

This version of Section 7.5 only applies until a new baghouse control system that is part of an emission reduction project for the BOP furnaces, which is addressed by Construction Permit 11050006, begins operation to control particulate emissions of these furnaces. At such time, the second version of Section 7.5 will become applicable, superseding this version of Section 7.5.

Changes to Add a New Version of Section 7.5 to the CAAPP Permit

7.5 Basic Oxygen Processes - Version 2

Note: This is the second version of Section 7.5 in this permit. This version of Section 7.5 will become applicable when the new baghouse control system for the BOPFs begins operation to control emissions of these furnaces. At such time, this version of Section 7.5 will supersede the first version of Section 7.5. (See Condition 7.5.15.)

7.5.1 Description

Reladling and Desulfurization Stations:

Molten iron is received by rail from the blast furnaces in torpedo cars. The iron is then transferred to the charging ladles at the reladling station. In the desulfurization stations a combination of lime and magnesium is injected into the molten iron to remove the sulfur. The sulfur reacts with the lime and magnesium and forms a layer of slag on the surface of the iron. A collection system with a positive pressure baghouse is used to control emissions of particulate matter from these stations.

Slag Skimming:

After the molten iron is desulfurized, the ladle it is moved to this station where a mechanical arm is used to scrape slag from the surface of the iron into slag pots. A collection system with a baghouse is used to control emissions from this process.

Basic Oxygen Process Furnaces (BOPFs or BOFs):

The steel production cycle or "heat" in a BOPF begins with the charging of scrap metal into the BOPF vessel. Molten iron is then charged into the vessel. During periods of reduced molten iron availability, the scrap metal may be preheated with a natural gas fired lance to increase its temperature and reduce the amount of molten iron that is needed. Flux materials are also added to the vessel. After the BOPF is charged, an oxygen lance is inserted through the roof of the BOPF to begin the refining phase with the "oxygen blow". In the BOPF, the injected oxygen reacts exothermically with the carbon in the iron generating heat, melting the scrap and reducing the amount of carbon in the bath, thus converting the iron to steel. When refining is completed, the BOPF is tapped, by pouring the molten steel from the vessel into a transfer ladle. After tapping, the slag is emptied from the vessel into a slag ladle, preparing the BOPF for the next heat. The steel production cycle is then repeated.

Emissions of particulate from the BOPFs from charging and tapping (also referred to as "secondary emissions") are captured by local hoods and ducted to a baghouse (the BOPF baghouse

system). Emissions of particulate from refining are captured by the roofs over the BOPFs and ducted to an electrostatic precipitator (the ESP system). The openings in the roofs of the BOPFs for the oxygen lances are also fitted with steam rings. The steam rings inject steam into the area between the oxygen lance and the "lance hole," acting to suppress particulate emissions through this area during oxygen blowing.

Ladle Preheating and Drying:

In this unit, lances combust either natural gas or coke oven gas to produce the heat needed to dry and preheat iron and steel handling ladles. The refractory linings of freshly re-bricked or repaired ladles must be completely dried and preheated before use. The drying process is necessary because any moisture left in the refractory would immediately vaporize and expand when the ladles are filled with molten metal. This sudden expansion could cause the refractory lining to split which would allow the molten metal to come into contact with, and damage the shell of the ladle. Emissions from this unit consist of particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide and organic materials from fuel combustion.

Ladle Metallurgy Furnaces (LMF) and Argon Stirring Stations:

At the LMF station and the argon stirring stations, final adjustments are made to the composition of a ladle of steel and the steel is held pending casting. At the LMF station, electricity can also be used to heat a ladle of steel if it has cooled below the range at which steel can be cast.

If the steel does not need to be reheated and at most minor adjustments are needed to its composition, the ladle of steel goes to one of the two argon stirring stations. At these stations, stirring lances are inserted into the steel and argon is pumped into the steel to maintain uniform composition and temperature. A baghouse is also used to control emissions from the operations.

Note: This narrative description is for informational purposes only and is not enforceable.

7.5.2 List of Basic Oxygen Processes and Air Pollution Control Equipment

Location	Descriptions	Date Constructed	Emission Control Equipment
Basic Oxygen Process Furnace (BOPF) Shop	Hot Metal Transfer Station	Prior to 05/1983	Reladle/ Desulfurization Baghouse
	Two Hot Metal Desulfurization Stations		
	Slag Skimming Station	1985	Skimmer Baghouse

Location	Descriptions	Date Constructed	Emission Control Equipment
Basic Oxygen Process Furnace (BOPF) Shop	Hot Metal Transfer Station	Prior to 05/1983	Reladle/ Desulfurization Baghouse
	Two Hot Metal Desulfurization Stations		
	Slag Skimming Station	1985	Skimmer Baghouse
	Basic Oxygen Process Furnaces (BOPFs or BOFs) #1 and #2, with Steam Rings	Prior to 08/1972	Baghouse (Charging and Tapping) and Electrostatic Precipitator (Refining)
	Ladle Drying/Preheating (coke oven gas and natural gas modes)	Prior to 08/1972	None
	Ladle Metallurgy Furnace (LMF) Station	Prior to 1986	Baghouse #2
	Argon Stirring Stations	Around 1988	

7.5.3-1 Applicable State Provisions

a. Pursuant to 35 IAC 212.446, emissions of particulate matter from basic oxygen processes shall be controlled as follows:

i. Charging, Refining and Tapping (BOF Operations). Particulate matter emissions from all basic oxygen furnaces (BOFs) shall be collected and ducted to pollution control equipment. Emissions from basic oxygen furnace operations during the entire cycle (operations from the beginning of the charging process through the end of the tapping process) shall not exceed the allowable emission rate specified by 35 IAC 212.322. For purposes of computing the process weight rate, nongaseous material charged to the furnace and process oxygen shall be included. No material shall be included more than once [35 IAC 212.446(a)].

ii. Hot Metal Transfer, Hot Metal Desulfurization and Ladle Lancing.

Particulate matter emissions from hot metal transfers to a mixer or ladle, hot metal desulfurization operations and ladle lancing shall be collected and ducted to pollution control equipment, and emissions from the pollution control equipment shall not exceed 69 mg/dscm (0.03 gr/dscf) [35 IAC 212.446(b)(1)].

iii. For openings in the building housing the BOFs, no person shall cause or allow emissions to exceed an opacity of 20 percent, as determined by averaging any

12 consecutive observations taken at 15 second intervals [35 IAC 212.446(c)].

b. Pursuant to 35 IAC 212.458, no person shall cause or allow emissions of PM_{10}, other than that of fugitive particulate matter, into the atmosphere to exceed the following limits during any one hour period:

i. 32.25 ng/J (0.075 lbs/mmBtu) of heat input from the burning of coke oven gas (at ladle dryers/preheaters) [35 IAC 212.458(b)(9)].

ii. 27.24 kg/hr (60 lbs/hr) and 0.1125 kg/Mg (0.225 lbs/T) of total steel in process whichever limit is more stringent for the total of all basic oxygen furnace operations (charging, refining and tapping, as described in 35 IAC 212.446(a)) and measured at the BOF stack [35 IAC 212.458(b)(23)].

iii. 22.9 mg/scm (0.01 gr/scf) from any process emissions unit, except as otherwise provided in 35 IAC 212.458 or in 35 IAC 212.443 and 212.446 [35 IAC 212.458(b)(7)].

c. Pursuant to 35 IAC 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, except as allowed by 35 IAC 212.123(b) and 212.124.

d. The basic oxygen processes are subject to 35 IAC 214.301, which provides that no person shall cause or allow the emission of SO_2 into the atmosphere from any process emission source to exceed 2000 ppm.

7.5.3-2 Applicable NESHAP Provisions

a. i. The Basic Oxygen Processes are subject to 40 CFR Part 63, Subpart FFFFF, the NESHAP for Integrated Iron and Steel Manufacturing Facilities. Applicable provisions of this NESHAP are addressed below and in other conditions of this section of the permit (Section 7.5).

ii. The Permittee shall operate and maintain the BOPFs and associated capture and control systems in accordance with applicable requirements of the NESHAP, 40 CFR 63 Subpart FFFFF, including requirements for operational monitoring, performance testing for opacity and emissions of particulate matter,* operation of capture and control systems within established limits for operating parameters,

implementation of specified operation and maintenance practices, recordkeeping and reporting. [T1]

* As related to testing of emissions, if the Permittee is not willing to consider all particulate matter measured by testing to be PM-10, as provided for by 35 IAC 212.108(a)(3), performance tests for emissions of particulate matter shall also include measurements for emissions of PM-10 in accordance with 35 IAC 212.108(a)(1) or (2).

Note: This condition, which was originally established in Construction Permit 95010001, as revised on December 17, 2012, requires the Permittee to comply with the operating and maintenance requirements of 40 CFR 63 Subpart FFFFF as the means to verify ongoing compliance with the requirements of Conditions 7.5.3-1(a)(iii) and (b)(ii) and to address implementation of good air pollution control practice for the BOPFs, including associated emission control systems. The requirements of the NESHAP are addressed below and in other conditions in this section of the permit.

b. Pursuant to 40 CFR 63.7790(a) and Table 1 to 40 CFR Part 63 Subpart FFFFF, the emissions from the Basic Oxygen Processes shall not exceed the following limits, which are applicable to operations at an existing basic oxygen process furnace (BOPF) shop:

i. The Permittee must not cause to be discharged to the atmosphere any gases that exit from a primary emission control system for a BOPF with an open hood system that contain, on a flow-weighted basis, particulate matter in excess of 0.02 gr/dscf during the steel production cycle. [NESHAP, Table 1, Paragraph 9(b)]

ii. The Permittee must not cause to be discharged to the atmosphere any gases that exit from a control device used solely for collection of secondary emissions from a BOPF that contain particulate matter in excess of 0.01 gr/dscf during the steel production cycle. [NESHAP, Table 1, Paragraph 9(c)]

iii. For each hot metal transfer, slag skimming, and hot metal desulfurization operation, the Permittee must not cause to be discharged to the atmosphere any gases that exit from a control device that contain particulate matter in excess of 0.01 gr/dscf. [NESHAP, Table 1, Paragraph 10]

iv. For each ladle metallurgy furnace operation, the Permittee must not cause to be discharged to the atmosphere any gases that exit from a control device that contain particulate matter in excess of 0.01 gr/dscf. [NESHAP, Table 1, Paragraph 11]

iv. For each roof monitor on the BOPF Shop, the Permittee must not cause to be discharged to the atmosphere any secondary emissions that exit any opening in the BOPF shop or any other building housing the BOPF shop operations that exhibit opacity greater than 20 percent (3-minute average). [NESHAP, Table 1, Paragraph 12]

c. Pursuant to 40 CFR 63.7790(b)(3), for each ESP applied to control emissions from a BOPF, the Permittee must maintain the hourly average opacity of emissions exiting the control device at or below 10 percent.

7.5.4 Non-Applicability of Regulations of Concern

a. Pursuant to 35 IAC 212.324(a)(3) and 212.316(f), the emission limitations of 35 IAC 212.324 and 212.316 are not applicable to the basic oxygen processes because these processes are subject to specific emission standards and limitations contained in 35 IAC Part 212 Subpart R, as addressed in Conditions 7.5.3-1(a) and (b).

b. Except where noted, 35 IAC 212.321 and 35 IAC 212.322 shall not apply to the steel manufacturing processes subject to 35 IAC 212.442 through 35 IAC 212.452 [35 IAC 212.441].

c. This permit is issued based on the basic oxygen processes not being subject to the applicable requirements of 35 IAC 219.301 because these processes do not emit photochemically reactive organic material as defined in 35 IAC 211.4690.

d. The basic oxygen processes are not subject to 35 IAC 216.121 because they are not fuel combustion emission units as defined in 35 IAC 211.2470.

7.5.5-1 NESHAP Requirements for Operation and Maintenance (40 CFR 63.7800 and 63.7833)

a. Pursuant to 40 CFR 63.7800(a), as required by 40 CFR 63.6(e)(1)(i), the Permittee must always operate and maintain each individual BOPF and each BOPF shop ancillary operation, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by 40 CFR 63 Subpart FFFFF.

b. Pursuant to 40 CFR 63.7800(b), the Permittee shall prepare and operate at all times according to a written operation and maintenance plan for each capture system for secondary emissions from the BOPF and the ESP for the BOPF (which are subject to operating limits pursuant to 40 CFR 63.7790(b)) and the BOPF baghouse and other baghouses for BOF shop ancillary operations (which are required to have bag leak detection systems). Each plan shall address the following elements:

i. Monthly inspections of the equipment that is important to the performance of the total capture system (e.g., pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). The operation and maintenance plan also must include requirements to repair any defect or deficiency in the capture system before the next scheduled inspection. [40 CFR 63.7800(b)(1)]

ii. Preventative maintenance for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance. [40 CFR 63.7800(b)(2)]

iii. Operating limits for each capture system applied to secondary emissions from the BOPF, which operating limits must be established according to the following requirements: [40 CFR 63.7800(b)(3)]

A. Select operating limit parameters appropriate for the capture system design that are representative and reliable indicators of the performance of the capture system. At a minimum, the Permittee must use appropriate operating limit parameters that indicate the level of the ventilation draft and the damper position settings for the capture system when operating to collect emissions, including revised settings for seasonal variations. Appropriate operating limit parameters for ventilation draft include, but are not limited to, volumetric flow rate through each separately ducted hood, total volumetric flow rate at the inlet to the control device to which the capture system is vented, fan motor amperage, or static pressure.

B. For each operating limit parameter selected above, designate the value or setting for the parameter at which the capture system operates during the process operation. As more than one process may operate simultaneously, designate the value or setting for the parameter at which the capture system operates during each possible configuration that the BOPF may operate.

C. Include documentation in the plan to support the selection of the operating limits established for the capture system. This documentation must include a description of the capture system design, a description of the capture system operating during production, a description of each selected operating limit parameter, a rationale for why you chose the parameter, a description of the method used to monitor the parameter according to the requirements of 40 CFR 63.7830(a), and the data used to set the value or setting for the parameter for each process configuration.

iv. Corrective action procedures for baghouses equipped with bag leak detection systems. In the event a bag leak detection system alarm is triggered, the Permittee shall initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete the corrective action as soon as practicable. Corrective actions may include, but are not limited to the following: [40 CFR 63.7800(b)(4)]

A. Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.

B. Sealing off defective bags or filter media.

C. Replacing defective bags or filter media or otherwise repairing the control device.

D. Sealing off a defective baghouse compartment.

E. Cleaning the bag leak detection system probe, or otherwise repair the bag leak detection system.

F. Shutting down the process producing the particulate emissions.

v. Corrective action procedures for the ESP, as it is equipped with a COMS. In the event the ESP exceeds the opacity operating limit in 40 CFR 63.7790(b)(3), the Permittee shall take corrective actions consistent with the site-specific monitoring plan in accordance with 40 CFR 63.7831(a)(8). [40 CFR 63.7800(b)(6)]

7.5.5-2 Work Practices Provisions for Startup, Shutdown and Malfunction Plans and Associated Procedures

a. NESHAP Provisions

i. Pursuant to 40 CFR 63.7810, the Permittee must be in compliance with the emission limitations and operation and maintenance requirements in 40 CFR 63 Subpart FFFFF at all times, except during periods of startup, shutdown and malfunction as defined in 40 CFR 63.2

ii. Pursuant to 40 CFR 63.7810(c), the Permittee shall develop a written startup, shutdown, and malfunction plan for the BOPFs according to the provisions of 40 CFR 63.6(e)(3).

iii. Pursuant to 40 CFR 63.7835:

A. Consistent with 40 CFR 63.6(e) and 63.7(e)(1), deviations from NESHAP requirements that occur during a period of startup, shutdown, or malfunction are not violations if the Permittee demonstrates to the Illinois EPA that the Permittee was operating in accordance with 40 CFR 63.6(e)(1).

B. The Illinois EPA will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations, according to the provisions in 40 CFR 63.6(e).

iv. The Permittee shall fulfill the applicable reporting requirements identified in Condition 5.10.5(b) and 40 CFR 63.7841(b)(4) and (c).

v. The Permittee shall keep records in accordance with 40 CFR 63.7842(a)(2) related to startup, shutdown and malfunction.

b. Provisions of State Emission Standards, Pursuant to 35 IAC 201.149 and Part 201 Subpart I

i. Subject to the following terms and conditions, the Permittee is authorized to continue to operate in violation of the applicable standards as specified below in the event of a malfunction or breakdown.

A. For the BOPFs, the applicable state standards in Condition 7.5.3-1(a)(iii), (b)(ii) and (c), and

B. For the LMF, the applicable state standards in Conditions 7.5.3-1(b)(iii) and (c).

Note: This authorization is provided because the Permittee applied for such authorization in its CAAPP application, generally explaining why such continued operation would be required to prevent injury to personnel or severe damage to equipment, and describing the measures that will be taken to minimize emissions from any malfunctions and breakdowns.

ii. This authorization only allows such continued operation as necessary to prevent injury to personnel or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee.

iii. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall, as soon as practicable, repair the units and/or re-establish applicable control practices.

iv. The Permittee shall fulfill the applicable recordkeeping requirements of Condition 7.5.9(h) and reporting requirements of Condition 5.10.5-2.

v. Following notification to the Illinois EPA (see Condition 5.10.5-2(a)(i)) of a malfunction or breakdown with excess emissions, the Permittee shall comply with all reasonable directives of the Illinois EPA with respect to such incident.

vi. This authorization does not relieve the Permittee from the continuing obligation to minimize excess emissions during malfunction or breakdown. As provided by 35 IAC 201.265, an authorization in a

permit for continued operation with excess emissions during malfunction and breakdown does not shield the Permittee from enforcement for any such violation and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.

7.5.5-3 Work Practices from Permit 10080021 (T1)

a. During the refining phase of operation, the steam rings on the BOPFs shall be operated in accordance with written procedures developed by the Permittee that set forth the timing and rate of steam injection as related to furnace operation and reflect good air pollution control practice to minimize emissions of particulate matter.

7.5.5-4 Operational Requirements from Permit 11050006 [T1]

a. The design capacity of the BOPF baghouse shall be at least 900,000 acfm, so as to be able to simultaneously control tapping of one BOPF and charging of the other BOPF and the simultaneous tapping of both BOPFs.

b. When the BOPF baghouse control system begins to operate:

i. The Permittee shall not conduct oxygen blowing simultaneously in both BOPFs unless this mode of operation is authorized by an appropriate construction permit.

ii. The Permittee shall continue to operate the capture systems that are part of the ESP control system in accordance with applicable operational requirements of the NESHAP for capture systems for secondary emissions from BOPFs (e.g. 40 CFR 63.7800(b)(1) and (3)), even though the ESP control system only controls primary emissions from the BOPFs.

c. After the shakedown of the BOPF baghouse system is complete and in no case later than six months after initial operation of the BOPFs with the BOPF baghouse system, the ESP shall only be used for control of emissions from charging and tapping of the BOPFs during an extended outage of the BOPF baghouse.

7.5.6 Production and Emission Limitations from Permits 95010001 and 83050042

a. Total combined production of liquid steel from the BOPFs shall not exceed 11,000 net tons per day, averaged over any calendar month. [T1]

b. BOF Shop Emissions (tons/yr total) shall not exceed the following limits: [T1]

PM	PM_{10}	NO_x	VOM	CO	Lead
510	451	70	12	16,097	1.43

c. BOF ESP Stack emissions shall not exceed the following limits: [T1]

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.16	262.80
PM_{10}	0.16	262.80
NO_x	0.0389	69.63
VOM	0.0060	10.74
CO	8.993	16,097.47
Lead	0.1934 lbs/hr	1.26

d. BOF Roof Monitor emissions shall not exceed the following limits: [T1]

Pollutant	(Lbs/Ton)	(Tons/Yr)
PM	0.0987	176.71
PM_{10}	0.06614	118.40
Lead	0.0129 lbs/hr	0.08

e. Hot Metal Desulfurization and Hot Metal Transfer emissions shall not exceed the following limits: [T1]

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.03721	58.88
PM_{10}	0.03721	58.88
VOM	0.0010	1.58
Lead	0.0133 lbs/hr	0.09

f. Hot metal charging and ladle slag skimming emissions shall not exceed the following limits: [T1]

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)
PM	0.0050	7.94
PM_{10}	0.0050	7.94

g. Emissions from Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy Baghouse #2) shall not exceed the following limits: (See also Section 7.1)

Pollutant	Emission Factor (Lbs/Ton)	Maximum Emissions (Tons/Yr)

PM	0.00715	12.80
PM_{10}	0.00715	12.80

h. Compliance with the annual limits in Conditions 7.5.6(b) through (g) shall be determined on a calendar year basis. [T1]

Note: These provisions (Conditions 7.5.6(a) through (h) were originally established in Construction Permit 95010001.

i. Emissions of particulate matter from the Ladle metallurgy station and the existing argon stirring station shall not exceed 16.20 tons per year. [T1]

j. The maximum process weight for 1) argon stirring, 2) ladle reheat, 3) alloy addition, 4) ladle slag skimming, and 5) hot metal desulfurization shall not exceed 356.7 tons per hour for 8,760 hours per year. [T1]

Note: These provisions (Conditions 7.5.6(i) and (j)) were originally established in Permit 83050042.

7.5.6-1 Emission Limit from Permit 11050006

a. Following completion of the shakedown period for the BOPF baghouse system, the emissions of particulate matter (PM) from the BOPF baghouse, as would be measured by USEPA Method 5, 5D or 17, shall not exceed 0.005 grains per dry standard cubic foot (gr/dcsf).

7.5.7 Testing Requirements

a. Testing Requirements in 40 CFR Part 63 Subpart FFFFF:

i. For the BOPFs, pursuant to testing provisions of this NESHAP, as provided below, testing of particulate matter (PM) emissions of the ESP shall be conducted at least every 30 months and testing of the BOPF baghouse shall be conducted at least every five years.

A. Pursuant to 40 CFR 63.7821(b), for the BOPFs (which are equipped with a control device other than a baghouse), the Permittee shall conduct performance tests for the ESP no less frequently than twice (at mid-term and renewal) during each term of the title V operating permit (i.e., this CAAPP permit).

B. Pursuant to 40 CFR 63.7821(c), for the BOPFs (as they are equipped with a baghouse), the Permittee shall conduct performance tests for

the baghouse no less frequently than once every 60 months.

ii. Pursuant to 40 CFR 63.7821(c), for each BOPF Process equipped with a baghouse, other than the BOPPs, the Permittee shall conduct subsequent performance tests no less frequently than once during each term of the Title V operating permit (every 60 months).

iii. The Permittee shall use the following test methods for compliance demonstration with the emission limits for particulate matter: [40 CFR 63.7822(b)]

A. The Permittee shall determine the concentration of particulate matter according to the following test methods in Appendix A to 40 CFR Part 60.

1. Method 1 to select sampling port locations and the number of traverse points. Sampling ports must be located at the outlet of the control device and prior to any releases to the atmosphere.

2. Method 2, 2F, or 2G to determine the volumetric flow rate of the stack gas.

3. Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.

4. Method 4 to determine the moisture content of the stack gas.

5. Method 5, 5D, or 17, as applicable, to determine the concentration of particulate matter (front half filterable catch only).

B. The Permittee shall collect a minimum sample volume of 60 dry standard cubic feet (dscf) of gas during each particulate matter test run. Three valid test runs are needed to comprise a performance test.

iv. Pursuant to 40 CFR 63.7822(g), for the ESP (which is a primary emission control system applied to emissions from a BOPF with an open hood system), the Permittee shall complete the following requirements:

A. Sample only during the steel production cycle. The Permittee shall conduct sampling under

conditions that are representative of normal operation. The Permittee shall record the start and end time of each steel production cycle and each period of abnormal operation; and

B. Sample for an integral number of steel production cycles. The steel production cycle begins when the scrap is charged to the BOF and ends 3 minutes after the slag is emptied from the vessel into the slag pot.

v. Pursuant to 40 CFR 63.7822(h), for a control device applied to emissions from BOPF shop ancillary operations (hot metal transfer, slag skimming, hot metal desulfurization, or ladle metallurgy), the Permittee shall sample only when the operation(s) is being conducted.

vi. The Permittee shall conduct each visible emissions performance test such that the opacity observations overlap with the performance test for particulate matter (PM). [40 CFR 63.7823(b)]

vii. The following test methods shall be used for opacity observations pursuant to 40 CFR 63.7823(d):

Using a certified observer, the Permittee shall determine the opacity of emissions according to Method 9 in Appendix A to Part 60 as specified below:

A. Instead of procedures in section 2.4 of Method 9 in Appendix A to 40 CFR Part 60, the Permittee shall record observations to the nearest 5 percent at 15-second intervals for at least three steel production cycles.

B. Instead of procedures in section 2.5 of Method 9 in Appendix A to 40 CFR Part 60, the Permittee shall determine the 3-minute block average opacity from the average of 12 consecutive observations recorded at 15-second intervals.

b. Pursuant to Sections 39.5(7)(d) and (p) of the Act, in conjunction with the testing of emissions required for an emission unit in the BOPF shop by the NESHAP (Condition 7.5.7(a), which requires testing at the midterm and renewal of this CAAPP permit), the Permittee shall also have testing conducted to measure emissions of other pollutants as follows.

i. Testing shall be conducted for PM/PM_{10}*, lead and other pollutants as follow: BOPFs (ESP) - NO_x, VOM and CO; and Hot Metal Desulfurization and Slag Skimming (Baghouses) - VOM.

* As an alternative to measurements for PM_{10} emissions, the measured results for PM, as determined in accordance with the NESHAP, shall be considered PM_{10}, as provided for by 35 IAC 212.108.

ii. The relevant test method specified by the NESHAP or the following USEPA test methods shall be used for this testing, unless another USEPA test method is approved by the Illinois EPA during the review of a Test Plan submitted by the Permittee prior to testing.

Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3
Moisture	Method 4
VOM	Method 18 or 25A
NO_x	Method 7E or 19
CO	Method 10 or 10B
Lead	Method 29

iii. For this emission testing, test notifications and reporting shall be done by the Permittee in accordance with Condition 8.6.2 and 8.6.3 of this permit.

c. As provided by 35 IAC 212.446(c), observations to determine compliance with the opacity standard in 35 IAC 212.446(c) (see Condition 7.5.3-1(a)(iii)) shall be performed in accordance with 40 CFR Part 60, Appendix A, Method 9, incorporated by reference in 35 IAC 212.113, except that compliance shall be determined by averaging any 12 consecutive observations taken at 15 second intervals.

7.5.7-1 Emission Testing Requirements from Permit 11050006

a. The Permittee shall have emissions testing conducted for the BOPF baghouse and ESP by a qualified testing service as follows:

i. A performance test for PM emissions shall be conducted within 180 days of initial operation of the BOPFs with the BOPF baghouse system, unless this is prevented by *force majeure* event(s), in which case, testing shall be conducted as soon as practicable after the force majeure event occurs.* This performance test shall be conducted in accordance with 40 CFR 63.7824(c) to verify compliance with

applicable emission limits for PM set by the NESHAP and this permit and to establish new operating limits for the capture systems for the BOPFs pursuant to the NESHAP and this permit. For this purpose, performance testing shall be conducted for operation of the BOPFs with the BOPF baghouse and ESP systems.

* If testing is or will be delayed because of event(s) that the Permittee considers to constitute force majeure, the Permittee shall notify the Illinois EPA, as set forth by 40 CFR 63.7(a)(4).

ii. A. A further test for PM emissions and tests for emissions of filterable PM_{10} and $PM_{2.5}$, condensable particulate matter, lead, NO_x, CO and VOM shall be conducted within one year of initial operation of both BOPFs with charging and tapping controlled by the BOPF baghouse system. The measurements for emissions of PM and other pollutants required by these tests and the tests required by Condition 7.5.7-1(a)(iii) may be combined with other measurements required for the BOPFs if measurements are conducted within the time periods specified by these conditions. In conjunction with this emission testing, the Permittee shall conduct or have conducted measurements as necessary to evaluate the actual operation and capture efficiency achieved by the hoods for charging and tapping as compared to their design. These tests and measurements shall be the basis of the Project Report required by Condition 7.5.10-1(c)(iii) for the BOPF baghouse system.

B. Notwithstanding the above, testing for emissions of NO_x, CO or VOM from the BOPF baghouse need not be conducted if preliminary measurements for the pollutant indicate emissions are below the detection limit of the applicable test method.

iii. A follow-up test for emissions of PM, filterable PM_{10} and $PM_{2.5}$, condensable particulate matter and lead shall be conducted between 24 and 36 months of the completion of the emission testing required by Condition 7.5.7-1(a)(ii).

b. i. Testing for PM emissions shall be conducted using applicable methods and procedures specified by the NESHAP.

ii. Applicable USEPA test methods and procedures shall be used for testing of emissions of pollutants other than PM, including the following methods for measurement of the emissions of different pollutants, unless other methods are approved by the Illinois EPA as part of the approval of a test plan. Refer to 40 CFR 60, Appendix A, and 40 CFR 51, Appendix M, for USEPA test methods.

Filterable PM_{10} and $PM_{2.5}$	Method 201A
Condensable Particulate	Method 202
Lead	Method 29
Nitrogen Oxides	Method 7E
Carbon Monoxide	Method 10
Volatile Organic Material	Method 25A

iii. During all test runs for emissions of PM and filterable PM_{10} or $PM_{2.5}$ required by Condition 7.5.7-1(a), observations of the opacity of the exhaust from the roof monitor of the BOPF shop shall also be conducted in accordance with applicable methods and procedures of the NESHAP, including 40 CFR 63.7823(d), and information recorded on the timing of charging, refining, tapping and deslagging of each BOPF, so opacity data may be correlated with the operation of the BOPFs.

c. The Permittee shall submit a written plan to the Illinois EPA for review and comment for this testing. This plan shall be submitted at least 60 days prior to the actual date of testing and include the following information at a minimum:

i. A description of the planned emission test.

ii. The person(s) who will be performing sampling and analysis and their experience with similar tests.

iii. The specific operating conditions under which testing will be performed, including a discussion of why these conditions will appropriately address operation of the BOPFs and associated control systems and the levels of operating parameters of the control systems at or within which compliance is intended to be shown.

iv. The specific determination of emissions intended to be made, including sampling and monitoring locations.

v. The test methods that will be used, with the specific analysis method.

vi. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification.

vii. A statement that the testing will be performed by a qualified independent testing service.

viii. If preliminary measurements will be made for emissions of NO_x, CO, or VOM from the BOPF baghouse to determine whether emissions are below the detection limit of the applicable test method, a description of the proposed approach to such measurements.

d. i. Prior to carrying out each set of emission tests, the Permittee shall notify the Illinois EPA a minimum of 30 days prior to the scheduled date of these tests with the exact date and time that testing would begin, to enable the Illinois EPA to witness these tests.

ii. If the scheduled date for testing is changed, the Permittee shall inform the Illinois EPA within 5 working days of the new date and time for testing.

iii. Notwithstanding the above, the Illinois EPA may, at its discretion, accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe testing.

e. The Permittee shall submit three copies of the Final Report(s) for emissions tests to the Illinois EPA no later than 60 days after completion of sampling. The Final Report shall include at a minimum:

i. General information, i.e., date of test, names of testing personnel, and names of Illinois EPA observers.

ii. A summary of the measured emissions in pounds per hour, lbs/ton steel and, for PM, in gr/dscf.

iii. Detailed data for operating parameters of the control system during testing, including data recorded by the operational monitoring systems and, as applicable, proposed operating parameter limits based on the emission testing.

iv. Description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule.

v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses,

sample calculations, and data on equipment calibration.

vi. A comparison of measured data to applicable emission standards and limits and a statement whether compliance was demonstrated.

vii. The data for opacity of the exhaust through the roof monitor of the BOPF shop during testing and the timing of charging, refining, tapping and deslagging of the BOPFs, as determined and recorded pursuant to Condition 7.5.7-1(b)(iii), accompanied by copies of the certification(s) pursuant to USEPA Method 9 of the individual(s) who made the observations of opacity.

viii. If emission testing for NO_x, CO or VOM from the BOPF baghouse was not conducted, as provided for by Condition 7.5.7-1(a)(ii)(B), documentation for the preliminary measurements that show emissions are below the detection limit of the applicable test method.

f. The Permittee shall retain copies of the reports for these emission tests for at least five years beyond the date that an emission test report is superseded by subsequent testing for all pollutants.

7.5.7-2 Other Testing Requirements from Permit 11050006

a. In conjunction with the emission testing required by Condition 7.5.7-1(a)(ii) or (iii), the Permittee shall conduct or have conducted measurements as necessary for a determination of the PM control efficiency of the BOPF baghouse during normal operation of the BOPFs, including associated control systems, which efficiency may be determined either "directly" (e.g., by measurements of the PM loading at the inlet of the BOPF baghouse for comparison to the measured PM emission rate) or "indirectly" (e.g., by recordkeeping for the amount of material collected by this baghouse over a week or month, to determine an average collection rate per hour or per steel production cycle, for comparison to the measured emission rate).

b. These measurements and the determination of the PM control efficiency of the BOFF baghouse, in percent, shall be included in the relevant report for emission testing pursuant to Condition 7.5.7-1(e).

7.5.8 NESHAP Monitoring and Inspection Requirements

a. NESHAP Monitoring for Capture Systems (40 CFR 63.7830(a))

For each capture system for secondary emissions from the BOPFs (as it is subject to an operating limit pursuant to ~~in~~ 40 CFR 63.7790(b)(1) established in Permittee's capture system operation and maintenance plan), the Permittee shall install, operate, and maintain a continuous parameter monitoring system (CPMS) according to the requirements in 40 CFR 63.7830(a) and 63.7831(e).

b. NESHAP Monitoring for Baghouses (40 CFR 63.7830(b)(1) and 63.7833(c)))

The Permittee shall operate and maintain a bag leak detection system on each baghouse for the BOPFs and each baghouse for BOPF shop ancillary operation(s) (i.e., Baghouse #2, the slag skimmer baghouse and the BOPF baghouse) according to 40 CFR 63.7831(f) and 63.7833(c)(1) and (4) and monitor the relative change in particulate matter loadings according to the requirements in 40 CFR 63.7832.

c. NESHAP Inspections for Baghouses [40 CFR 63.7830(b)(4) and 63.7833(c)(2)]

The Permittee shall conduct inspections of each baghouse for the BOPFs and each baghouse for BOPF shop ancillary operation(s) at the specified frequencies according to the following requirements~~:~~. Pursuant to 40 CFR 63.7833(c)(3), the Permittee shall also maintain all records needed to document conformance with these requirements.

i. Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the operation and maintenance manual. [40 CFR 63.7830(b)(4)(i)]

ii. Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms. [40 CFR 63.7830(b)(4)(ii)]

iii. Check the compressed air supply for pulse-jet baghouses each day. [40 CFR 63.7830(b)(4)(iii)]

iv. Monitor cleaning cycles to ensure proper operation using an appropriate methodology. [40 CFR 63.7830(b)(4)(iv)]

v. Check bag cleaning mechanisms for proper functioning through monthly visual inspections or equivalent means. [40 CFR 63.7830(b)(4)(v)]

vi. Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (kneed or bent) or laying on their sides. The Permittee does not have to make this check for shaker-type baghouses using self-tensioning (spring-loaded) devices. [40 CFR 63.7830(b)(4)(vi)]

vii. Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks. [40 CFR 63.7830(b)(4)(vii)]

viii. Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means. [40 CFR 63.7830(b)(4)(viii)]

d. NESHAP Monitoring for the ESP [40 CFR 63.7830(d) and 63.7833(g)]

i. For the ESP for BOPFs (which is ~~are~~ subject to an opacity operating limit pursuant to 40 CFR 63.7790(b)(3)), the Permittee shall operate and maintain a continuous opacity monitoring system (COMS) according to the requirements in 40 CFR 63.7831(h) and monitor the hourly average opacity of emissions exiting the stack according to the requirements in 40 CFR 63.7832.~~.~~ [40 CFR 63.7830(d)]~~.~~

ii. If the hourly average opacity for the ESP for the BOPFs exceeds the operating limit, the Permittee shall follow the following procedures:

A. The Permittee shall initiate corrective action to determine the cause of the exceedance within 1 hour. During any period of corrective action, the Permittee must continue to monitor and record all required operating parameters for equipment that remains in operation. Within 24 hours of the exceedance, the Permittee shall measure and record the hourly average operating parameter value for the emission unit on which corrective action was taken. If the hourly average parameter value meets the applicable operating limit, then the corrective action was successful and the emission unit is in compliance with the applicable operating limit. [40 CFR 63.7833(g)(1)]

B. If the required initial corrective action was not successful, the Permittee shall complete additional corrective action within the next 24 hours (48 hours from the time of the exceedance). During any period of corrective action, the Permittee shall continue to monitor and record all required operating parameters for equipment that remains in operation. After this second 24-hour period, the Permittee shall again measure and record the hourly average operating parameter value for the emission unit on which corrective action was taken. If the hourly average parameter value meets the applicable operating limit, then the corrective action was successful and the emission unit is in compliance with the applicable operating limit. [40 CFR 63.7833(g)(2)]

C. For purposes of 40 CFR 63.7833(g)(1) and (2), in the case of an exceedance of the hourly average opacity operating limit for an ESP, measurements of the hourly average opacity based on visible emission observations in accordance with Method 9 may be taken to evaluate the effectiveness of corrective action. [40 CFR 63.7833(g)(3)]

D. If the second attempt at corrective action required by 40 CFR 63.7833(g)(2) was not successful, the Permittee shall report the exceedance as a deviation in the next semiannual compliance report according to 40 CFR 63.7841(b). [40 CFR 63.7833(g)(4)]

e. NESHAP Requirements for Installation, Operation, And Maintenance of Monitors for Baghouses [40 CFR 63.7831(f)]

For the BOPF baghouse and the baghouses for BOPF shop ancillary operations (i.e., the slag skimmer baghouse and Baghouse #2), which are all subject to 40 CFR 63.7830(b)(1)), the Permittee shall install, operate and maintain the bag leak detection system according to the following requirements of 40 CFR 63.7831(f) and monitor the relative change on particulate matter loading according to the requirements in 40 CFR 63.7832:

i. The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less. [40 CFR 63.7831(f)(1)]

ii. The system must provide output of relative changes in particulate matter loadings. [40 CFR 63.7831(f)(2)]

iii. The system must be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over a preset level. The alarm must be located such that it can be heard by the appropriate plant personnel. [40 CFR 63.7831(f)(3)]

iv. Each system that works based on the triboelectric effect must be installed, operated, and maintained in a manner consistent with the guidance document, "Fabric Filter Bag Leak Detection Guidance", EPA-454/R-98-015, September 1997. The Permittee may install, operate, and maintain other types of bag leak detection systems in a manner consistent with the manufacturer's written specifications and recommendations. [40 CFR 63.7831(f)(4)]

v. To make the initial adjustment of the system, the Permittee shall establish the baseline output by adjusting the sensitivity (range) and the averaging period of the device. Then, the Permittee shall establish the alarm set points and the alarm delay time. [40 CFR 63.7831(f)(5)]

vi. Following the initial adjustment, the Permittee may not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in the Permittee's operation and maintenance plan. The Permittee may not increase the sensitivity by more than 100 percent or decrease the sensitivity by more than 50 percent over a 365-day period unless a responsible official certifies, in writing, that the baghouse has been inspected and found to be in good operating condition. [40 CFR 63.7831(f)(6)]

vii. Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. [40 CFR 63.7831(f)(7)]

f. NESHAP Requirements for Installation, Operation And Maintenance of the COMS for the ESP [40 CFR 63.7831(h)]

For the ESP (which is subject to the opacity limit in 40 CFR 63.7790(b)(3)), the Permittee shall install, operate, and maintain a COMS according to the following requirements in 40 CFR 62.7831 (h)(1) through (4):

i. The Permittee shall install, operate, and maintain each COMS according to Performance Specification 1 in 40 CFR Part 60, Appendix B.

ii. The Permittee shall conduct a performance evaluation of each COMS according to 40 CFR 63.8 and Performance Specification 1 in Appendix B to 40 CFR Part 60.

iii. Each COMS must complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

iv. COMS data must be reduced to 6-minute averages as specified in 40 CFR 63.8(g)(2) and to hourly averages where required by 40 CFR 63 Subpart FFFFF.

g. General Requirements for Monitoring: [40 CFR 63.7832]

i. For purposes of the NESHAP, 40 CFR 63 Subpart FFFFF, except for monitoring malfunctions, out-of-control periods as specified in 40 CFR 63.8(c)(7), associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), the Permittee shall monitor continuously (or collect data at all required intervals) at all times a subject control/capture system is operating.

ii. The Permittee may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels or to fulfill a minimum data availability requirement, if applicable. The Permittee shall use all the data collected during all other periods in assessing compliance.

iii. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

7.5.8-1 Additional Requirements for Opacity Observations

The following opacity observations shall be performed pursuant to Section 39.5(7)(a), (b) and (p) of the Act:

a. Routine Opacity Observations for the BOPF Shop

Electronic Filing - Recived, Clerk's Office : 05/06/2013 - * * * PCB 2013-062 * * *

The Permittee shall have the opacity of the exhaust of the building housing the BOPFs determined by a qualified observer in accordance with USEPA Method 9 while the BOF(s) are operating, as further specified below.

i. Observations of opacity shall be conducted on the following frequency unless absence of adequate daylight or weather conditions preclude scheduled observation, in which case, the next observations shall be conducted on the next operating day of the BOF(s) during which observations of opacity can reasonably be conducted in accordance with USEPA Method 9, except that reading shall be taken as a 3-minute average (12 consecutive observations taken 15 seconds intervals).

ii. If a baghouse is not installed for control of tapping emissions from the BOFs, these readings shall be performed for at least five days out of every seven. A day is defined as any day when a BOF is in operation for a minimum of four hours during conditions that are acceptable for Method 9 readings. A minimum of 60 consecutive minutes of opacity readings must be obtained and must encompass at least one steel production cycle. A production cycle is defined as the beginning of scrap charging to the completion of deslagging of the steelmaking vessel. Results of these readings shall be reduced to three minute rolling averages.

iii. Beginning 30 days after initial startup of a baghouse for control of tapping emissions from the BOFs, the Permittee shall have the opacity of the exhaust of the building housing the BOFs determined by a qualified observer in accordance with USEPA Method 9 while the BOF(s) are operating, as further specified below.

A. The duration of opacity observations for each test shall be one complete steel making cycle.

B. Observations of opacity shall be conducted on the following frequency unless absence of adequate daylight or weather conditions preclude scheduled observation, in which case, the next observations shall be conducted on the next operating day of the BOF(s) during which observations of opacity can reasonably be conducted in accordance with USEPA Method 9.

C. On a weekly basis (at least once every seven operating days of the BOFs) except as provided below.

D. On a daily basis (at least 5 days out of seven operating days of the BOFs) if any of the five previous 3-minute average observations measured opacity of 18 percent or more, continuing on a daily basis until the maximum opacities measured in five consecutive daily observations are all less than 18 percent, at which time observations on a weekly basis shall resume.

b. Additional Opacity Observations for the BOPF Shop

Upon written request by the Illinois EPA, additional opacity observations shall be conducted within 5 operating days for the BOPFs from the date of the request by the Illinois EPA or on the date agreed upon by the Illinois EPA, whichever is later. For such observations conducted pursuant to a request from the Illinois EPA:

i. The Permittee shall notify the Illinois EPA at least 24 hours in advance of the date and time of these observations, in order to enable the Illinois EPA to witness the observations. This notification shall include the name and employer of the qualified observer(s).

ii. The Permittee shall promptly notify the Illinois EPA of any changes in the time or date for observations.

iii. The duration of these observations shall cover a complete heat or cycle.

iv. The Permittee shall provide a copy of the current certification for the opacity observer and observer's readings to the Illinois EPA at the time of the observations, if the Illinois EPA personnel are present.

c. Opacity Observations for the ESP for the BOPFs

i. The Permittee shall determine the opacity from the BOPF ESP stack for at least one hour on any normal work day that the continuous opacity monitor on the BOF ESP stack has an outage that exceeds two consecutive hours and is still down. The readings shall commence as soon as possible after the opacity monitor has been down for two consecutive hours. If meteorological conditions or lack of visibility preclude these observations from being conducted, then this shall be noted in the log book.

ii. The opacity shall be determined in accordance with the observation procedures set out in 40 CFR Part 60, Appendix A, Method 9.

d. Additional Opacity Observations for the BOPF Shop during the Shakedown of the BOPF Baghouse System

i. The Permittee shall conduct opacity observations for the BOPF shop as follows, while the capture systems for the BOPFs are operated, as practicable, at minimum values of the operating parameters at which the Permittee normally expects to operate these systems.

A. Observations shall be promptly conducted following initial operation of the BOPFs with the BOPF baghouse system.

B. Thereafter, until the performance testing required by Condition 7.5.7-1(a)(i) is conducted, these observations shall be conducted at least every 15 operating days of the BOPF.

ii. These observations shall be conducted in accordance with 40 CFR 63.6(h)(5) and 63.7823(d). As observations must extend over at least three steel production cycles pursuant to 40 CFR 63.7823(d)(ii), opacity observations that the Permittee is otherwise required to conduct for the BOPF Shop by other conditions of this permit may provide a portion of these observations.

iii. The Permittee shall submit individual reports to the Illinois EPA for these opacity observations, which reports shall be submitted within 10 days of the date of observations. In addition to relevant information for reports for opacity observations, these reports shall include the actual values of the operating parameters of the capture systems for the BOPF that were monitored during each steel production cycle for which observations were conducted.

e. The Permittee shall keep records for all opacity observations for the BOPF shop and the BOPF ESP made in accordance with USEPA Method 9 that the Permittee conducts or that are conducted at its behest by individuals who are qualified to make such observations. For each occasion on which such observations are made, these records shall include a formal record for the observations, including a description of the observations that were made, the operating condition of the subject process, the observed opacity, and copies of the raw data sheets for the observations.

Electronic Filing - Recived, Clerk's Office : 05/06/2013 - * * * PCB 2013-062 * * *

7.5.8-2 Operational Monitoring for Steam Rings from Construction Permit 10080021

The Permittee shall install, maintain and operate a continuous monitoring system on each steam ring for the steam valve position (open or closed) and the rate at which steam is being injected.

7.5.8-3 Monitoring Requirements from Permit 11050006

a. The Permittee shall fulfill applicable monitoring requirements of the NESHAP, 40 CFR 63 Subpart FFFFF, for the BOPF baghouse system by operating a bag leak detection system on the BOPF baghouse, as specified by 40 CFR 63.7830(b)(1) and 63.7833(c)(i) and (4), with timely initiation of appropriate corrective action(s) in the event that the bag leak detection system alarm is triggered and fulfillment of associated recordkeeping and reporting requirements. (See also Condition 7.5.8.)

b. The Permittee shall monitor the following operating parameters for the BOPF baghouse system if not otherwise monitored pursuant to the NESHAP, 40 CFR 63 Subpart FFFFF. For this purpose, the Permittee may either directly monitor these parameters or indirectly derive and automatically record data for these parameters from other operating parameters that are continuously monitored.

i. The actual volumetric flow rate, in cubic feet per minute (acfm), through each separately ducted hood.

ii. The actual volumetric flow rate (acfm) at the inlet to the baghouse.

c. When the BOPF baghouse control system begins to operate and the ESP is only controlling primary emissions, the Permittee shall continue to conduct operational monitoring for the capture systems associated with the ESP in accordance with applicable requirements of the NESHAP (e.g., 40 CFR 63.7830(a) and 63.7831(e)), even though the ESP only controls primary emissions of the BOPFs.

7.5.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items pursuant to Sections 39.5(7)(a), (b) and (e) of the Act:

a. 40 CFR 63 Subpart FFFFF [40 CFR 63.7842 and 63.7843]

i. The Permittee shall keep the following records specified in 40 CFR 63.7842 (a)(1) through (a)(3):

Electronic Filing - Recived, Clerk's Office : 05/06/2013 - * * * PCB 2013-062 * * *

A. A copy of each notification and report that the Permittee submitted to comply with 40 CFR 63 Subpart FFFFF, including all documentation supporting any initial notification or notification of compliance status that the Permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).

B. The records in 40 CFR 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

C. Records of performance tests, performance evaluations, and opacity observations as required in 40 CFR 63.10(b)(2)(viii).

ii. For each COMS, the Permittee shall keep the following records specified in 40 CFR 63.7842 (b)(1) through (4):

A. Records described in 40 CFR 63.10(b)(2)(vi) through (xi).

B. Monitoring data for a performance evaluation as required in 40 CFR 63.6(h)(7)(i) and (ii).

C. Previous (that is, superseded) versions of the performance evaluation plan as required in 40 CFR 63.8(d)(3).

D. Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

iii. Pursuant to 40 CFR 63.7842(c), the Permittee shall keep the records specified in 40 CFR 63.6(h)(6) for visual observations.

iv. Pursuant to 40 CFR 63.7842(d), the Permittee shall keep the records required in 40 CFR 63.7833 and 63.7834 to show continuous compliance with each emission limitation and operation and maintenance requirement that applies to the Permittee.

v. Pursuant to 40 CFR 63.7843, the Permittee shall keep and retain records required by the NESHAP as follows:

Electronic Filing - Recived, Clerk's Office : 05/06/2013 - * * * PCB 2013-062 * * *

A. The Permittee shall keep the records in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1).

B. As specified in 40 CFR 63.10(b)(1), the Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

C. The Permittee shall keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). The Permittee may keep the records offsite for the remaining 3 years.

vi. Pursuant to 40 CFR 63.7834(b), the Permittee shall maintain a current copy of the operation and maintenance plan required in 40 CFR 63.7800(b) onsite and available for inspection upon request. The Permittee must keep the plans for the life of subject process or until the process is no longer subject to the requirements of 40 CFR 63 Subpart FFFFF.

vii. Pursuant to 40 CFR 63.7831(a), the Permittee shall maintain a copy of the site-specific monitoring plan for each CPMS required by 40 CFR 63.7830. In addition, if the Permittee operates under manufacturer's specifications or manufacturer's instructions, such manufacturer's documentation shall be kept at the source as part of the required records.

b. Recordkeeping from Permits 72080043 and 95010001:

The Permittee shall keep the following records:

i. Total production of molten steel at the BOPFs (daily, monthly, and annual production in tons).

ii. Records of all opacity observations. (See also Condition 7.5.8-1(e).)

c. Recordkeeping from Permit 08110016:

The operating and maintenance records that the Permittee maintains for the ESP shall include the following information for the induced draft fans on the ESP, in addition to other required information:

i. The periods of time when the BOPFs operated with less than three properly functioning fans, with description and explanation.

ii. The periods of time when the BOPFs are operating and a spare fan is not available, with the identity of the fan(s) that were not available and explanation, e.g., spare fan not available due to regularly scheduled maintenance or spare fan not available due to unplanned breakdown of the main bearings.

d. Recordkeeping for the steam rings on the BOFs from Construction Permit 10080021:

i. A. The Permittee shall maintain a record of the steam valve position (open or closed) and the rate at which steam is being injected, as determined by the continuous monitoring systems required by Condition 7.5.8-2.

B. In addition to keeping records of the data meesured by these monitoring systems, the Permittee shall keep records of the operation, calibration and maintenance of these systems.

ii. The Permittee shall maintain an operating log or other records for the BOFs and steam rings that contain information generally documenting the steam rings are being operated in accordance with Condition 7.5.5-3, including information for the timing of the refining phase of each heat of a BOF.

iii. The Permittee shall maintain detailed records of the following information for each heat in a BOF in which the steam ring was not operated during the refining phase:

A. Identification of the heat and the duration of the incident, i.e., start time and time normal operation was achieved or the refining phase was completed.

B. Description of the incident, impact on effectiveness of the steam ring, probable cause, and corrective actions.

C. Verification that the established procedures were followed or a description and explanation why procedures were not followed.

Note: These records may be kept with other logs or records that the Permittee keeps for the BOPFs and their instrumentation and need not be kept as a separate record.

Electronic Filing - Recived, Clerk's Office : 05/06/2013 - * * * PCB 2013-062 * * *

e. Production Records

The Permittee shall keep annual records (tons/year) of steel processed at the slag skimming station, the argon stirring station and ladle metallurgy furnace station.

f. Emissions Records

The Permittee shall keep the following records related to the emissions of the basic oxygen processes to verify compliance with the applicable limits in Conditions 7.5.6(b) through (g):

i. A file containing the emission factors used by the Permittee to determine emissions of different pollutants from such processes, with supporting documentation. These records shall be reviewed and updated by the Permittee as necessary to assure that the emission factors that it uses to determine emissions of the processes do not understate actual emissions, including review when emission testing is conducted for a process. These records shall be prepared and copies sent to the Illinois EPA in accordance with Condition 5.9.6(c).

ii. Records for any periods of operation of a process that are not otherwise addressed in the required records during which the established emission factor in Condition 7.5.9(f)(i) would understate actual emissions of the process, with description of the period of operation and an estimate of the additional emissions during such period that would not be accounted for by the established factor, with supporting explanation and calculations.

iii. Records for the annual emissions of such processes for comparison to the limits in Conditions 7.5.6(c) through (g), with supporting calculations.

iv. Records for combined annual emissions of such processes, based on the summation of the above data, for comparison to the limits in Condition 7.5.6(b).

g. Additional Operational Records

In the operational logs or other records for the operation of the basic oxygen processes, the Permittee shall keep records identifying process upsets that result in the generation of additional opacity or PM emissions, such as loss of the slag cover on the molten metal in a vessel or a spill of molten metal. For these upsets, these records shall include the time of the upset, a description of the

Electronic Filing - Recived, Clerk's Office : 05/06/2013 - * * * PCB 2013-062 * * *

upset, and a discussion of the consequences for PM emissions from the basic oxygen processes.

h. Records for Malfunctions or Breakdowns

Pursuant to 35 IAC 201.263, the Permittee shall maintain records of continued operation of the BOFs and LMF as addressed by Condition 7.5.5-2(b), during malfunctions or breakdowns, which at a minimum, shall include the following records. The preparation of these records shall be completed within 45 days of an incident, unless the Permittee conducts a root cause analysis for the incident, in which case the preparation of these records, other than the root cause analysis, shall be completed within 120 days of the incident.

i. Date, time and duration of the incident.

ii. A detailed description of the incident, including:

A. A chronology of significant events during and leading up to the incident.

B. Relevant operating data for the unit, including information such as operator log entries and directives provided by management during the incident.

C. The measures taken to reduce the quantity of emissions and the duration of the incident including the resources utilized to address the incident.

D. The magnitude of emissions during the incident.

iii. An explanation why continued operation of the furnace(s) was necessary to prevent personnel injury or prevent equipment damage.

iv. A discussion of the cause(s) or probable cause(s) of the incident including the following:

A. Whether the incident was sudden, unavoidable, or preventable, including:

1. Why the equipment design did not prevent the incident;

2. Why better maintenance could not have avoided the incident;

3. Why better operating practices could not have avoided the incident; and

Electronic Filing - Recived, Clerk's Office : 05/06/2013 - * * * PCB 2013-062 * * *

4. Why there was no advance indication for the incident.

B. Whether the incident stemmed from any activity or event that could have been foreseen, avoided or planned for.

C. Whether the incident was or is part of a recurring pattern indicative of inadequate design, operation or maintenance.

v. A description of any steps taken or to be taken to prevent similar future incidents or reduce their frequency and severity.

vi. As an alternative to keeping the records required by Condition 7.5.9(h)(iv), the Permittee may perform a root cause analysis. For this purpose, a root cause analysis is an analysis whose purpose is to determine, correct and eliminate the primary causes of the incident and the excess emissions resulting there from. If the Permittee performs a root cause analysis method that would define the problem, define all causal relationships, provide a causal path to the root cause, delineate the evidence, and provide solutions to prevent a recurrence. Such an analysis shall be completed within one year of the incident.

7.5.9-1 Recordkeeping Requirements from Permit 11050006

a. The Permittee shall maintain a file or other records that contain the following information for the BOPF baghouse system:

i. Design data for the capture hoods for charging and tapping, including the analysis for the levels of capture achieved by the hoods for emissions of particulate, i.e., percentages of total emissions from charging and tapping that are collected and directed to the BOPF baghouse.

ii. The manufacturer's specifications for the capacity (acfm and scfm) and particulate emissions (gr/dscf) of the BOPF baghouse and the manufacturer's recommended operating and maintenance procedures for this baghouse.

b. After charging and tapping of both BOPFs first begin to be controlled with the BOPF baghouse system, the Permittee shall keep records of the following information for the BOPFs. The preparation of these records by the Permittee may be automated or these records may be prepared manually or by a combination of manual and automated methods. These

records may be combined with other records that are kept by the Permittee for the BOPFs.

i. Records for the BOPFs for the total number of steel production cycles per day (24-hours).

ii. Records for the following information, as calculated from data monitored pursuant to Conditions 7.5.8-3(b) and (c):

A. The average flow rate through each separately ducted hood for each BOPF for each steel production cycle (acfm).

B. The average flow rate at the inlet to the BOPF baghouse per steel production cycle (acfm/cycle), daily (24-hour) average.

C. The average flow rate at the inlet to the ESP per steel production cycle (acfm/cycle), daily (24-hour) average.

c. After tapping and charging of both BOPFs first begin to be controlled with the BOPF baghouse system, the Permittee shall keep records for periods when charging or tapping of a BOPF is not controlled by this system, including a description of the event, the probable cause(s) of the event, the remedial action(s) taken and any measure(s) taken to prevent similar events in the future.

7.5.10 General Reporting Requirements

a. 40 CFR Part 63, Subpart FFFFF [40 CFR 63.7841]

i. Compliance report due dates. Unless the Administrator has approved a different schedule, the Permittee shall submit a semiannual compliance report to the permitting authority according to the following requirements:

A. Semi-annual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

B. Each compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.

ii. Compliance report contents. Each compliance report shall include the following information:

Electronic Filing - Recived, Clerk's Office : 05/06/2013 - * * * PCB 2013-062 * * *

A. Company name and address.

B. Statement by a responsible official, with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

C. Date of report and beginning and ending dates of the reporting period.

D. If the Permittee had a startup, shutdown, or malfunction during the reporting period and the Permittee took actions consistent with the source's startup, shutdown, and malfunction plan, the compliance report must include the information in 40 CFR 63.10(d)(5)(i).

E. If there were no deviations from the continuous compliance requirements in 40 CFR 63.7833 and 63.7834 that apply to the Permittee, a statement that there were no deviations from the emission limitations or operation and maintenance requirements during the reporting period.

F. If there were no periods during which a continuous monitoring system (including a CPMS, COMS, or continuous emission monitoring system (CEMS)) was out-of-control as specified in 40 CFR 63.8(c)(7), a statement that there were no periods during which the CPMS was out-of-control during the reporting period.

G. For each deviation from an emission limitation in 40 CFR 63.7790 that occurs at each Basic Oxygen Process where the Permittee is not using a continuous monitoring system (including a CPMS, COMS, or CEMS) to comply with an emission limitation in 40 CFR Subpart FFFFF, the compliance report must contain the information described in Condition 7.5.10(a)(ii)(A) through (F) and the following information (this includes periods of startup, shutdown, and malfunction):

1. The total operating time of each Basic Oxygen Process during the reporting period.

2. Information on the number, duration, and cause of deviations (including unknown

cause, if applicable) as applicable and the corrective action taken.

H. For each deviation from an emission limitation occurring at each Basic Oxygen Furnace Process where the Permittee is using a continuous monitoring system (including a CPMS or COMS) to comply with the emission limitation in 40 CFR 63 Subpart FFFFF, the Permittee shall include the following information (this includes periods of startup, shutdown, and malfunction):

1. The date and time that each malfunction started and stopped.

2. The date and time that each continuous monitoring was inoperative, except for zero (low-level) and high-level checks.

3. The date, time, and duration that each continuous monitoring system was out-of-control as specified in 40 CFR 63.8(c)(7), including the information in 40 CFR 63.8(c)(8).

4. The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

5. A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

6. A breakdown of the total duration of the deviations during the reporting period including those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

7. A summary of the total duration of continuous monitoring system downtime during the reporting period and the total duration of continuous monitoring system downtime as a percent of the total source operating time during the reporting period.

Electronic Filing - Recived, Clerk's Office : 05/06/2013 - * * * PCB 2013-062 * * *

8. A brief description of the Basic Oxygen Processes.

9. A brief description of the continuous monitoring system.

10. The date of the latest continuous monitoring system certification or audit.

11. A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.

iii. Immediate startup, shutdown, and malfunction report. If the Permittee had a startup, shutdown, or malfunction during the semiannual reporting period that was not consistent with the source's startup, shutdown, and malfunction plan, the Permittee shall submit an immediate startup, shutdown, and malfunction report according to the requirements in 40 CFR 63.10(d)(5)(ii).

b. Monthly Opacity Exceedance Report.

Monthly opacity exceedance reports for the BOPF ESP shall be sent to the Illinois EPA Regional Office. These reports shall contain all opacity measurements which exceed 30 percent, averaged over a six minute period. These "excess opacity" reports shall provide, for each such incident, the percent opacity measured as well as the date and span of such incident. These reports shall state the reasons for the excess opacity. The reports shall also specify the dates of those periods during which the continuous monitoring system was not in operation [Section 39.5(7)(f)(ii) of the Act].

c. Reporting of Deviations

i. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the Illinois EPA, Air Compliance Section, within 30 days of deviations by the Basic Oxygen Furnace Processes from applicable requirements, unless a NESHAP standard specifies a different timeframe, as follows:

A. Requirements in Conditions 7.5.3-1 and 7.5.3-2.

B. Requirements in Condition 7.5.5-1.

C. Requirements in Condition 7.5.5-3.

D. Requirements in Conditions 7.5.6(a) through (j).

ii. All such deviations shall be summarized and reported as part of the semiannual monitoring report required by Condition 8.6.1.

iii. The Permittee shall notify the Illinois EPA, Air Compliance Section, of all other deviations as part of the semiannual monitoring reports required by Condition 8.6.1.

iv. All required deviation reports described in Condition 7.5.10(c) above shall contain the following information:

A. Date, time and duration of the deviation;

B. Description of the deviation;

C. Probable cause of the deviation; and

D. Any corrective action or preventative measures taken.

d. The Permittee shall fulfill the following reporting requirements:

i. Reporting on malfunction and breakdown (state authorization) shall be performed in accordance with Condition 5.10.5-2.

ii. Reporting on the Federal SSM authorization shall be performed in accordance with Condition 5.10.5-3.

7.5.10-1 Reporting Requirements from Permits

a. Report Required by Permit 08110016:

After the initial year of operation (12 calendar months) of the BOPF with an ESP with four fans, the Permittee shall submit a report to the Illinois EPA that evaluates the impacts of the addition of a fourth fan to the ESP on the particulate matter emissions of the BOPF. This report shall, at a minimum, include the following information and address impacts on both stack emissions of particulate matter (i.e., emissions from the ESP stack) and uncaptured emissions of particulate matter (e.g., emissions from the roof monitor of the BOPF Shop). This report shall be submitted by the end of the third month following the initial year of operation with an ESP with four fans.

i. A description of typical operating scenarios in which the availability of a spare fan resulted in a

Electronic Filing - Recived, Clerk's Office : 05/06/2013 - * * * PCB 2013-062 * * *

decrease in short-term emissions, with an assessment of the changes in the hourly emission rates, with supporting documentation and calculations.

ii. A description of typical operating scenarios, if any, in which the availability of a spare fan resulted in an increase in short-term emissions, with an assessment of the changes in the hourly emission rates, with supporting documentation and calculations.

iii. An assessment of the overall effect of the addition of a fourth fan on actual annual emissions of the BOF, with supporting operating data and calculations.

b. Report Required by Permit 10080021:

i. Within six months of initial startup of the steam rings on the BOFs, the Permittee shall submit to the Illinois EPA: 1) A Project Report; and 2) A draft of the Permittee's written operating procedures for the steam rings, as required by Condition 7.5.5-3, for review and comment by the Illinois EPA. This Project Report shall include the following:

A. An assessment, with supporting documentation, of the effect of the steam rings on the opacity and, as feasible, particulate loading of the exhaust from the roof monitor of the BOPF Shop during refining, correlated with the rate of steam injection and other operating parameters of the BOF's and their control system; and

B. An identification of circumstances, if any, in which the steam rings must be operated to maintain compliance with applicable emission standards.

ii. The Permittee shall submit reports to the Illinois EPA on a semi-annual basis that include the following information for the operation of the steam rings on the BOFs:

A. Total number of heats during the reporting period.

B. Number of heats during the reporting period without steam rings operating properly, by type of incident, e.g., breakdown of the steam ring interrupting operation, malfunction of the steam ring with insufficient steam flow, or breakdown of support system.

Electronic Filing - Recived, Clerk's Office : 05/06/2013 - * * * PCB 2013-062 * * *

c. Reporting Required by Permit 11050006

i. The Permittee shall notify the Illinois EPA of the following events with respect to the shakedown of the BOPF baghouse system:

A. The planned date for initial operation of the BOPF(s) with this system, at least 5 days in advance, which notification shall also include the date on which it is expected that the opacity observations required by Condition 7.5.8-1(d)(i)(A) will be conducted. If operation with this system will be phased, i.e., the emissions from charging and tapping of both BOPFs will not initially all be controlled by this system, this notification shall include the planned schedule for phase-in of control of emissions by this system.

B. The date that tapping and charging of both BOPFs are initially controlled with this system, no later than 30 days after this date.

C. The date that the shakedown of this system is completed, no later than 30 days after this date.

ii. After the shakedown of the BOPF baghouse system is complete, the Permittee shall notify the Illinois EPA if the ESP will be used for control of emissions from charging and tapping of the BOPFs, with description of the planned use of the ESP and explanation.

iii. Within 18 months of the date that tapping and charging of both BOPFs are initially controlled with the BOPF baghouse system, the Permittee shall submit a Project Report to the Illinois EPA that evaluates the emissions of particulate (as PM_{10} and $PM_{2.5}$) and lead from the BOPFs with this system. This one-time report shall include the following:

A. An assessment of the actual levels of capture (percent) that are achieved for emissions from charging and tapping, during normal operation of the BOPFs and control systems.

B. An assessment of the actual level of overall control (percent) for emissions from charging and tapping, for normal operation of the BOPFs and the BOPF baghouse system.

C. An assessment of overall emissions of particulate and lead from the BOPFs on a short-term basis (in lbs/hour and lbs/ton of steel),

with typical and maximum emission rates, for normal operation.

D. A review of the probable effect of upsets in the operation of the BOPF baghouse system on the short-term emissions of the BOPFs, considering upsets that have been experienced.

E. An assessment of the distribution of emissions of particulate and lead from the BOPFs between the ESP, baghouse and roof monitor (uncaptured emissions) on a short-term basis, with the typical distribution of emissions, the distribution of emissions with maximum emissions at the roof monitor, and the distribution of emissions with maximum emissions at the ESP, all for normal operation.

F. An assessment of the actual reductions in annual emissions of particulate (tons/year) from the BOPFs that should be achieved with the BOPF baghouse system.

G. An assessment of the typical range of opacity from the roof monitor during tapping of a single BOPF, charging of a single BOPF, overlapping tapping and charging of the BOPFs, and periods of operation other than charging and tapping.

H. Appropriate data and analysis to support the above assessments.

7.5.11 Operational Flexibility/Anticipated Operating Scenarios

The BOPFs shall only be operated as top oxygen injected vessels, except that, for purposes of checkout and emission testing only, the furnaces may be operated as peripheral and bottom oxygen injected furnaces for a maximum of 120 days. Any further operation of the furnaces as other than top oxygen injected vessels shall be pursuant to a permit granted for such additional operation. [Permit 72080043]

7.5.12 Compliance Procedures

a. Compliance with the applicable standards of Conditions 7.5.3-1 and 7.5.3-2 is addressed by the work practices, testing, monitoring, recordkeeping and reporting requirements in Section 7.5 of this permit.

b. Compliance with the production/emission limits of Conditions 7.5.6 and 5.6.2 is addressed by the work practices, testing monitoring, recordkeeping and reporting requirements in Sections 7.5 and 5 of this permit.

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7.5.13 Compliance Schedule and Current Enforcement Status

a. The Permittee shall comply with the following schedule of compliance applicable to BOF shop emissions and established in accordance with modified Consent Order 05-CH-750 (December 23, 2009):

Commitment	Timing
Certify compliance	March 31, 2011

b. Submittal of Progress Reports

Quarterly Progress Reports shall be submitted beginning with September 2011 and ending upon the achievement of compliance. Each quarterly report shall be submitted no later than 5 days after the end of the corresponding calendar month. The Progress Report shall contain at least the following:

i. The required date for achieving commitments, and actual dates when such commitments were achieved.

ii. Any commitments accepted by the Permittee or otherwise established for the BOPFs as part of the resolution of the above referenced Consent Order, with the associated timing for each commitment.

iii. A discussion of progress in complying with commitments that are subject to future deadlines.

iv. If any commitment was not met, an explanation of why the required timeframe or commitment was not met, and any preventive or corrective measures adopted to achieve required commitment.

c. After completion of all required commitments and certification of compliance, as identified in Condition 7.5.13(a) no further Quarterly Progress Reports are required to be submitted.

7.5.14 State-Only Conditions

State-only conditions are not being established.

7.5.15 Transition

This version of Section 7.5 (Version 2) will become applicable when the BOPF baghouse control system, which is part of the emission reduction project for the BOPFs addressed by Construction Permit 110500006, begins operation to control particulate emissions of these furnaces. At such time, this version of Section 7.5 will supersede the first version of Section 7.5.

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CONTESTED CONDITIONS – Construction Permit Appeal (Permit issued April 1, 2013)

Contested Condition in Part 2 of Construction Permit	Construction Permit Page(s)	Emission Factor
7.5 – Basic Oxygen Processes		
7.5.6(b) – BOF Shop Emissions (tons/yr total) – (Only NOx and VOM annual emission limits)	29	**Annual Emissions:** *NOx*: 70 tpy *VOM:* 12 tpy
7.5.6(c) – BOF ESP Stack (charge, refine, tap)	29	*PM*: 0.16 lbs/ton *PM10*: 0.16 lbs/ton *NOx*: 0.0389 lbs/ton *VOM*: 0.0060 lbs/ton *CO*: 8.993 lbs/ton *Lead*: 0.1934 lbs/hr **Maximum Emissions**: *NOx*: 69.63 tpy *VOM:* 10.74 tpy
7.5.6(c) – BOF ESP Stack – Failure to include note regarding compliance schedule (See Condition 7.5.13)	29	NA
7.5.6(d) – BOF Roof Monitor	29	*PM*: 0.0987 lbs/ton *PM10*: 0.06614 lbs/ton *Lead*: 0.0129 lbs/hr
7.5.6(e) – Hot Metal Desulfurization and Hot Metal Transfer	29	*PM*: 0.03721 lbs/ton *PM10*: 0.03721 lbs/ton *VOM*: 0.0010 lbs/ton *Lead*: 0.0133 lbs/hr
7.5.6(f) – Hot metal charging and ladle slag skimming	29	*PM*: 0.0050 lbs/ton *PM10*: 0.0050 lbs/ton
7.5.6(g) – Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy Baghouse #2)	29-30	*PM*: 0.00715 lbs/ton *PM10*: 0.00715 lbs/ton
7.5.13 – Compliance Schedule and Current Enforcement Status – Failure to include compliance schedule for NOx and VOM emissions from the BOF Shop related to the VN issued November 30, 2012.	61	NA

EXHIBIT B

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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 - (217) 782-2829
JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, ILLINOIS 60601 - (312) 814-6026

PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

TDD 217/782-9143

NOV 3 0 2012

Certified Mail # 7010 2780 0002 1165 1120
Return Receipt Requested

Richard Veitch
United States Steel Corporation – Granite City Works
1951 State Street
Granite City, Illinois 62040

RE: Violation Notice A-2012-00169
I.D. 119813AAI

Dear Mr. Veitch:

This constitutes a Violation Notice pursuant to Section 31(a)(1) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(1), and is based upon a review of available information and an investigation by representatives of the Illinois Environmental Protection Agency ("Illinois EPA").

The Illinois EPA hereby provides notice of alleged violations of environmental laws, regulations, or permits as set forth in Attachment A to this letter. Attachment A includes an explanation of the activities that the Illinois EPA believes may resolve the specified alleged violations, including an estimate of a reasonable time period to complete the necessary activities. Due to the nature and seriousness of the alleged violations, please be advised that resolution of the violations may also require the involvement of a prosecutorial authority for purposes that may include, among others, the imposition of statutory penalties.

A written response, which may include a request for a meeting with representatives of the Illinois EPA, must be submitted via certified mail to the Illinois EPA within 45 days of receipt of this letter. If a meeting is requested, it shall be held within 60 days of receipt of this notice. The response must include information in rebuttal, explanation, or justification of each alleged violation and a statement indicating whether or not the source wishes to enter into a Compliance Commitment Agreement ("CCA") pursuant to Section 31(a) of the Act. If the source wishes to enter into a CCA, the written response must also include proposed terms for the CCA that contains dates for achieving each commitment and may also include a statement that compliance has been achieved for some or all of the alleged violations. In order to increase the likelihood of the Illinois EPA accepting such terms, the written response should specifically propose them in a manner that can be formalized into an enforceable agreement between the Illinois EPA and the source. As such, proposed conditions should be as detailed as possible, including steps to be taken to achieve compliance, the manner of compliance, interim and completion dates, etc.

EXHIBIT C

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The Illinois EPA will review the proposed terms for a CCA provided by the source and, within 30 days of receipt, will respond with either a proposed CCA or a notice that no CCA will be issued by the Illinois EPA. If the Illinois EPA sends a proposed CCA, the source must respond in writing by either agreeing to and signing the proposed CCA or by notifying the Illinois EPA that the source rejects the terms of the proposed CCA.

If a timely written response to this Violation Notice is not provided, it shall be considered a waiver of the opportunity to respond and meet, and the Illinois EPA may proceed with referral to the prosecutorial authority.

Written communications should be directed to ERIC JONES, Illinois EPA, Bureau of Air, Compliance Unit, P.O. Box 19276, Springfield, Illinois 62794-9276. All communications must include reference to the Violation Notice number in this matter.

Questions regarding this matter should be directed to JEFF BENBENEK at 618/346-5120.

Sincerely,

Raymond E. Pilapil, Manager
Compliance Section
Bureau of Air

REP: ej

Electronic Filing - Recived, Clerk's Office : 05/06/2013 - * * * PCB 2013-062 * * *

Violation Notice A-2012-00169
United States Steel Corporation – Granite City Works, I.D. 119813AAI

ATTACHMENT A

Per available information:

1. Section 39.5(6)(a) of the Act and condition 7.5.6(c) of Clean Air Act Permit Program ("CAAPP") permit 96030056: For at least calendar year 2011, United States Steel Corporation – Granite City Works caused or allowed the emissions of nitrogen oxides ("NOx") and volatile organic material ("VOM") from its basic oxygen furnace ("BOF") and associated electrostatic precipitator ("ESP") to exceed the emission limits of 69.63 tons/year and 10.74 tons/year, respectively. Additionally, during emissions testing of the BOF and associated ESP, performed on April 3-4, 2012 and July 19-20, 2012, United States Steel Corporation – Granite City Works caused or allowed the emissions of NOx and VOM in excess of the emission limits of 0.0389 lb/ton and 0.006 lb/ton, respectively.

2. Sections 9(a), 9.1(d) and 39.5(6)(a) of the Act, 40 CFR 63.7790(b)(3), and condition 7.5.3(f) of CAAPP permit 96030056: United States Steel Corporation – Granite City Works caused or allowed the hourly average opacity from the BOF and associated ESP to exceed 10% between April 4-6, 2012.

3. Sections 9(a), 9.1(d) and 39.5(6)(a) of the Act , 40 CFR 63.6(e)(1)(i), and condition 7.7.5-1(a) of CAAPP permit 96030056: On April 4-6, 2012, United States Steel Corporation – Granite City Works caused or allowed the operation of the BOF and associated ESP in a manner inconsistent with good air pollution control practices for minimizing emissions to levels required by 40 CFR 63, Subpart FFFFF.

4. Sections 9(a) and 39.5(6)(a) of the Act and condition 7.5.5-3(c)(ii) of CAAPP permit 96030056: United States Steel Corporation – Granite City Works caused or allowed the operation of the BOF after the steam-rings became inoperable. Specifically, from at least July 13, 2012 through October 1, 2012, and the steam-rings on steelmaking vessel #1 were inoperable and from at least August 29, 2012 through October 1, 2012, the steam-rings on steelmaking vessel #2 were inoperable.

RECOMMENDATIONS:

The Illinois EPA suggests that United States Steel Corporation – Granite City Works take the following actions to address the violations stated above:

1. Within 45 days of receipt of this Violation Notice, submit appropriate applications to revise the limitations for NOx and VOM contained in condition 7.5.6(c) of CAAPP permit 96030056.

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Violation Notice A-2012-00169
United States Steel Corporation – Granite City Works, I.D. 119813AAI

ATTACHMENT A (Continued)

RECOMMENDATIONS (cont.):

2. Within 45 days of receipt of this Violation Notice, develop, implement, and submit to the Illinois EPA a revised operating and maintenance plan for the ESP that will ensure opacity emissions from the BOF and associated ESP will remain at a level below the hourly average of 10% during normal operation.

3. Within 45 days of receipt of this Violation Notice, develop, implement, and submit to the Illinois EPA a monitoring and maintenance plan that will ensure the proper operation of the steam rings at all times during operation of the BOF.

4. Within 45 days of receipt of this Violation Notice, submit to the Illinois EPA emissions calculations for NOx, VOM, and PM from the BOF and associated ESP for calendar year 2012, along with supporting documentation.

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Granite City Works
United States Steel
20th & State Street
Granite City, IL 62040
(618) 451-3456

RECEIVED
JAN 31 2013
Illinois Environmental Protection Agency
BUREAU OF AIR
STATE OF ILLINOIS

January 30, 2013

VIA ELECTRONIC MAIL AND HAND DELIVERY

Michael T. Reed, Manager
CAAPP Unit, Bureau of Air
Illinois Environmental Protection Agency
1021 North Grand Avenue East, Post Office Box 19276
Springfield, Illinois 62794-9276

Subject : United States Steel Corporation Granite City Works
CAAPP No. 96030056, Facility I.D No. 119813AAI
Basic Oxygen Furnace ESP Emissions – Permit Condition 7.5.6(c)

Dear Mr. Reed:

Following up to our prior submittal of stack test results and after receipt of the Violation Notice A-2012-00169, dated November 30, 2012, regarding the Basic Oxygen Furnace ESP emissions, United States Steel Corporation Granite City Works ("U.S. Steel") is hereby submitting a compliance schedule. As you discussed with representatives of U. S. Steel, U. S. Steel respectfully requests that the enclosed schedule, provided per 40 CFR § 70.5(c)(8) and § 39.5 of the Illinois Environmental Protection Act, be incorporated into CAAPP No. 96030056, consistent with 40 CFR § 70.6 and § 39.5 of the Illinois Environmental Protection Act.

The last two stack tests have demonstrated that the BOF ESP cannot maintain compliance with the current emission limits for NOx and VOM. These limits were developed from historic information from a prior owner of the facility. As you know, the ESP does not control nor is it believed to contribute to NOx and VOM emissions.

If you have any questions regarding the enclosed information, please contact Jason Braxton at JKBraxton@uss.com or by phone at (412) 433-6544, or contact Bryan Kresak at BMKresak@uss.com or by phone at (618) 451-3391.

Finally, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

Richard E Veitch

Richard Veitch
General Manager
Granite City Works
United States Steel Corporation

Enclosures

EXHIBIT D

Electronic Filing - Received, Clerk's Office : 05/06/2013 - * * * PCB 2013-062 * * *

United States Steel Corporation
Granite City Works
BOP ESP Emissions
Compliance Plan/Schedule
January 30, 2013

Compliance Plan/Schedule Element	Milestone Date*	Completion Date
1. Advise Illinois EPA regarding stack test results/noncompliance.	September 19, 2012	Complete
2. Submit stack test schedule and test protocols to develop emission factors and revise annual limits for NO_x and VOM		April 30, 2013
3. Begin stack testing	1 months after IEPA approval of stack test plan	August 31, 2013
4. Submit final stack test results	2 months after final test	October 31, 2013
5. Submit emission factors for NO_x and VOM based on stack test results for IEPA approval	1 months after submitting results of final stack test	December 31, 2013
6. Submit PSD #95010001 and Title V permit application(s) for integrated processing to establish new NO_x and VOM emission factors and annual limits	6 months after emission factor approval	June 30, 2014
7. Receive PSD Permit	Assume year after application submittal	June 30, 2015
8. Submit Title V application for an administrative amendment or minor modification to incorporate PSD changes	One month after PSD permit issuance	July 31, 2015
9. Receive administrative amendment from IEPA	Three months	August 31, 2015
10. EPA 60-day review	60-days after submittal	October 31, 2015
11. Submit progress reports to IEPA at a minimum of every six (6) months		
12. Compliance**		October 31, 2015

* **An interim milestone date, which is missed, is not a violation provided that the final compliance date(s) are met.**

** **Compliance date based on receiving final permit(s) with new emission factors**

Electronic Filing - Recived, Clerk's Office : 05/06/2013 - * * * PCB 2013-062 * * *

HODGE DWYER & DRIVER
ATTORNEYS AT LAW

MONICA T. RIOS
E-mail: mrios@hddattorneys.com

February 14, 2013

VIA CERTIFIED MAIL
(Return Receipt Requested)

Mr. Dean Studer
Hearing Officer
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P. O. Box 19276
Springfield, Illinois 62794-9276

Re: Comments on U.S. Steel – Revised CAAPP Permit
Granite City Works, Granite City, Illinois
Facility I.D. No. 119813AAI

Dear Mr. Studer:

On February 5, 2013, the Illinois Environmental Protection Agency ("Illinois EPA") opened a 10 day public notice period on its planned issuance of a revised Clean Air Act Permit Program ("CAAPP") permit for United States Steel Corporation ("U.S. Steel"). Illinois EPA's intention is to address the United States Environmental Protection Agency's ("USEPA") December 3, 2012 order granting in part and denying in part the American Bottom Conservancy's Petition to Object to U.S. Steel's Revised CAAPP permit.

In November 2012, Illinois EPA issued a Violation Notice to U.S. Steel alleging violations for the NOx and VOM limits for the basic oxygen furnace ("BOF") and associated electrostatic precipitator ("ESP") in Condition 7.5.6(c) of U.S. Steel's Revised CAAPP permit. Via letter dated January 30, 2013, U.S. Steel submitted a compliance plan/schedule requesting that it be incorporated into the Revised CAAPP Permit. *See* Attachment A. While Illinois EPA acknowledges receipt of the compliance plan/schedule in the Statement of Basis, Illinois EPA has made the "preliminary decision to wait until the enforcement cases . . . have been resolved and/or adjudicated before including any compliance schedule in a CAAPP permit for the facility." Statement of Basis at 14-15.

EXHIBIT E

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In the Statement of Basis issued with the public notice documents, Illinois EPA explained:

> The identification of non-compliance and/or the issuance of a violation notice and reference to the information contained therein, alone, is not sufficient to satisfy the demonstration required under Section 505(b)(2) of the CAA for the inclusion of an approvable compliance schedule in a Title V permit. This alleged non-compliance is simply an early stage in the larger enforcement process of determining whether a violation, in fact, has occurred. This information noted above in the current enforcement cases is, therefore, generally insufficient to warrant a compliance schedule without further investigation by appropriate enforcement staff at the state or federal level.

Statement of Basis at 13.

Although Illinois EPA has made the preliminary decision not to include U.S. Steel's proposed compliance schedule in the planned revisions to the Revised CAAPP Permit, the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/1 *et seq.*, and the regulations promulgated thereunder require that such a compliance schedule be included in the Revised CAAPP Permit when it is reissued. Section 39.5(7)(p)(iii) of the Act states that each CAAPP permit shall include a "schedule of compliance consistent with subsection 5 of this Section and applicable regulations." 415 ILCS 5/39.5(7)(p)(iii); *see also* 415 ILCS 5/39.5(7)(p)(iv) (stating that each CAAPP permit shall include "[p]rogress reports consistent with an applicable schedule of compliance . . .").

Moreover, Section 39.5(7)(p)(iv) of the Act provides that each CAAPP permit shall contain the following elements with respect to compliance:

> Progress reports consistent with an applicable schedule of compliance pursuant to paragraph (d) of subsection 5 of this Section and applicable regulations to be submitted semiannually, or more frequently if the Agency determines that such more frequent submittals are necessary for compliance with the Act or regulations promulgated by the Board thereunder. Such progress reports shall contain the following:
>
> A. Required dates for achieving the activities, milestones, or compliance required by the schedule of compliance and dates when such activities, milestones or compliance were achieved.
>
> B. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

415 ILCS 5/39.5(7)(p)(iv); *see also* 40 C.F.R § 70.6(c)(3) – (4) (stating that "[a]ll part 70 permits shall contain the following elements with respect to compliance . . . [a] schedule of compliance . . . " and progress reports consistent with an applicable schedule of compliance). For such non-compliant emission units, the regulations further require the following:

> . . .a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any such applicable requirements for which the source will be in noncompliance at the time of application submittal. This compliance plan/schedule of compliance addendum shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the source is subject

35 Ill. Admin. Code § 270.404(b); *see also* 40 C.F.R. § 70.6(c)(3) (stating that "[a]ll part 70 permits ***shall*** [emphasis added] contain the following elements with respect to compliance . . . [a] schedule of compliance . . .").

Based on the provisions discussed above, CAAPP permits are required to include compliance schedules for emission units that are not in compliance with applicable requirements of the permit at the time of issuance. Illinois EPA stated that it is too soon to determine non-compliance based on the issuance of the violation notice to U.S. Steel because the enforcement process is only in the beginning stages. Illinois EPA also noted that other considerations and information needs to be taken into account prior to revising the CAAPP permit to include a compliance schedule. However, U.S. Steel's January 30, 2013 letter requesting a compliance schedule clearly explained that data from the last two stack tests demonstrated "that the BOF ESP cannot maintain compliance with the current emission limits for NOx and VOM." *See* Attachment A. Thus, U.S. Steel has concluded, based on stack test data, that it cannot comply with certain permit requirements that will be included in the Revised CAAPP Permit when it is issued. Accordingly, U.S. Steel requested that a compliance schedule be included in the upcoming reissuance of the Revised CAAPP Permit and requests that Illinois EPA reconsider its position on this issue. Furthermore, U.S. Steel requests that Illinois EPA include the requested compliance schedule at a new Condition 7.5.13 in the Revised CAAPP Permit, as well as add a Note (*) after existing Condition 7.5.6(c) as follows:

> *These limits have been addressed by the compliance schedule established for compliance with these factors and limits. (See Condition 7.5.13).

U.S. Steel appreciates the opportunity to provide these comments. If you should have any questions regarding the above, please do not hesitate to contact me.

Sincerely,

Monica T. Rios

Monica T. Rios

MTR:kjg
enclosure
pc: David W. Hacker, Esq. (via electronic mail w/ enclosure)
Mr. Bryan M. Kresak (via electronic mail w/ enclosure)
Mr. Jason K. Braxton (via electronic mail w/ enclosure)
Sally A. Carter, Esq. (via electronic mail w/ enclosure)
Mr. Brad Frost (via electronic mail w/ enclosure)

Granite City Works
United States Steel
20th & State Street
Granite City, IL 62040
(618) 451-3466

RECEIVED
JAN 31 2013
Illinois Environmental Protection Agency
BUREAU OF AIR
STATE OF ILLINOIS

January 30, 2013

VIA ELECTRONIC MAIL AND HAND DELIVERY

Michael T. Reed, Manager
CAAPP Unit, Bureau of Air
Illinois Environmental Protection Agency
1021 North Grand Avenue East, Post Office Box 19276
Springfield, Illinois 62794-9276

Subject : United States Steel Corporation Granite City Works
CAAPP No. 96030056, Facility I.D No. 119813AAI
Basic Oxygen Furnace BSP Emissions – Permit Condition 7.5.6(c)

Dear Mr. Reed:

Following up to our prior submittal of stack test results and after receipt of the Violation Notice A-2012-00169, dated November 30, 2012, regarding the Basic Oxygen Furnace ESP emissions, United States Steel Corporation Granite City Works ("U.S. Steel") is hereby submitting a compliance schedule. As you discussed with representatives of U. S. Steel, U. S. Steel respectfully requests that the enclosed schedule, provided per 40 CFR § 70.5(c)(8) and § 39.5 of the Illinois Environmental Protection Act, be incorporated into CAAPP No. 96030056, consistent with 40 CFR § 70.6 and § 39.5 of the Illinois Environmental Protection Act.

The last two stack tests have demonstrated that the BOF ESP cannot maintain compliance with the current emission limits for NOx and VOM. These limits were developed from historic information from a prior owner of the facility. As you know, the ESP does not control nor is it believed to contribute to NOx and VOM emissions.

If you have any questions regarding the enclosed information, please contact Jason Braxton at JKBraxton@uss.com or by phone at (412) 433-6544, or contact Bryan Kresak at BMKresak@uss.com or by phone at (618) 451-3391.

Finally, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

Richard E Veitch

Richard Veitch
General Manager
Granite City Works
United States Steel Corporation

Enclosures

ATTACHMENT A

United States Steel Corporation
Granite City Works
BOP ESP Emissions
Compliance Plan/Schedule
January 30, 2013

Compliance Plan/Schedule Element	Milestone Date*	Completion Date
1. Advise Illinois EPA regarding stack test results/noncompliance.	September 19, 2012	Complete
2. Submit stack test schedule and test protocols to develop emission factors and revise annual limits for NO_x and VOM		April 30, 2013
3. Begin stack testing	1 months after IEPA approval of stack test plan	August 31, 2013
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6. Submit PSD #95010001 and Title V permit application(s) for integrated processing to establish new NO_x and VOM emission factors and annual limits	6 months after emission factor approval	June 30, 2014
7. Receive PSD Permit	Assume year after application submittal	June 30, 2015
8. Submit Title V application for an administrative amendment or minor modification to incorporate PSD changes	One month after PSD permit issuance	July 31, 2015
9. Receive administrative amendment from IEPA	Three months	August 31, 2015
10. EPA 60-day review	60-days after submittal	October 31, 2015
11. Submit progress reports to IEPA at a minimum of every six (6) months		
12. Compliance**		October 31, 2015

* **An interim milestone date, which is missed, is not a violation provided that the final compliance date(s) are met.**

** **Compliance date based on receiving final permit(s) with new emission factors**

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

UNITED STATES STEEL CORPORATION, a Delaware corporation,	)	
Petitioner,	)	
v.	)	PCB 2013-____ (Permit Appeal-Air)
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Respondent.	)	

MOTION FOR STAY OF EFFECTIVENESS OF CONTESTED CONDITIONS

NOW COMES Petitioner, UNITED STATES STEEL CORPORATION (hereinafter "U.S. Steel"), by and through its attorneys, HODGE DWYER & DRIVER, pursuant to Section 40.2(f) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/40.2(f), and hereby requests that the Illinois Pollution Control Board ("Board") grant a stay of effectiveness with regard to the contested conditions in the Construction Permit (Subject to Integrated Processing) (App. No. 11050006) issued to U.S. Steel by the Illinois Environmental Protection Agency ("Illinois EPA") on April 1, 2013 ("Construction Permit"). In support of this Motion, U.S. Steel states as follows:

1. On April 1, 2013, Illinois EPA issued the Construction Permit to U.S. Steel's integrated iron and steel mill in Granite City, Illinois, authorizing construction of an emission reduction project. For this project, U.S. Steel will construct a new baghouse to control particulate emissions from charging and tapping at the basic oxygen process furnaces ("BOF").

2. The Construction Permit also authorized revisions to U.S. Steel's Clean Air Act Permit Program permit ("CAAPP Permit") via administrative amendment because the Construction Permit was subject to integrated processing, meaning that the Construction Permit "was subject to procedural requirements and includes compliance requirements that are substantially equivalent to those that apply to CAAPP permits." The revisions authorized to be made to the CAAPP Permit are specified in Part 2 of the Construction Permit.

3. U.S. Steel is contemporaneously filing herewith a Petition for Review ("Petition") of the Construction Permit, specifically contesting the following conditions in Part 2 of the Construction Permit:

- Condition 7.5.6(b) – Annual NOx and VOM Emission Limits for the BOF Shop;
- Condition 7.5.6(c)-(g) – Emission Factors for BOF Shop Activities, NOx and VOM Annual Maximum Emissions for the BOF ESP Stack, and failure to include a note regarding a compliance schedule (See Condition 7.5.13); and
- Condition 7.5.13 – Compliance Schedule and Current Enforcement Status: Failure to include a compliance schedule for NOx and VOM emissions from the BOF Shop.

A table describing the contested conditions in more detail is included with this Motion as Exhibit A. As discussed in more detail below, U.S. Steel requests that the contested conditions described above and in Exhibit A be stayed during the pendency of the review process.

4. U.S Steel's CAAPP Permit is the subject of an appeal proceeding before the Board.[1] In the CAAPP Permit appeal, U.S. Steel requested a stay of effectiveness of certain contested conditions of the CAAPP Permit, pursuant to Section 40.2(f) of the Act.

5. Section 40.2(f) of the Act states the following, in relevant part:

> If requested by the applicant, the Board may stay the effectiveness of any final Agency action identified in subsection (a) of this Section during the pendency of the review process. If requested by the applicant, the Board shall stay the effectiveness of all the contested conditions of a CAAPP permit. The Board may stay the effectiveness of any or all uncontested conditions if the Board determines that the uncontested conditions would be affected by its review of contested conditions. If the Board stays any, but not all, conditions, then the applicant shall continue to operate in accordance with any related terms and conditions of any other applicable permits until final Board action in the review process. If the Board stays all conditions, then the applicant shall continue to operate in accordance with all related terms and conditions of any other applicable permits until final Board action in the review process. Any stays granted by the Board shall be deemed effective upon the date of final Agency action appealed by the applicant under this subsection (f). Subsection (b) of Section 10-65 of the Illinois Administrative Procedure Act shall not apply to actions under this subsection.

415 ILCS 5/40.2(f). (Emphasis added.)

6. On May 2, 2013, the Board granted U.S. Steel's request for a stay of contested conditions in the CAAPP Permit appeal. Board Order, *United States Steel Corporation v. Illinois EPA*, PCB No. 13-53 (Ill.Pol.Control.Bd. May 2, 2013) (granting the stay of effectiveness of contested conditions until the Board takes final action in the matter or orders otherwise).

7. The Board, in granting U.S. Steel's request for a stay of contested conditions stated: "Section 40.2(f) of the Act makes clear that contested conditions of a

[1] Petition for Review, *United States Steel Corporation v. Illinois EPA*, PCB No. 13-53 (Ill.Pol.Control.Bd. Apr. 8, 2013).

CAAPP permit shall be stayed at the request of the applicant. 415 ILCS 5/40.2(f) (2010); *see also* CenterPoint Energy – Mississippi River Transmission, LLC v. IEPA, PCB 12-14, clip op. at 3 (Nov. 17, 2011)." Board Order, PCB No. 13-53 at 2.

8. Pursuant to Section 40.2(f), the Board shall grant a stay of the contested conditions in Part 2 (Changes that are "Pre-Authorized" to the CAAPP Permit) of the Construction Permit because the contested conditions are CAAPP Permit conditions that shall be stayed, if requested by U.S. Steel.

9. The Construction Permit was subject to integrated processing in order to authorize certain changes to the CAAPP Permit via administrative amendment. Illinois EPA explained in the Project Summary[2] for the Construction Permit:

> . . .[I]n conjunction with the planned issuance of a construction permit for the new baghouse control system for the BOP furnaces, the Illinois EPA is proposing to authorize changes to conditions the current [CAAPP] permit. . . . This is because this CAAPP permit contains certain requirements for control of the BOP furnaces with the existing ESP that would no longer be feasible, necessary or appropriate when particulate emissions are controlled by the combination of the new baghouse and the ESP control systems. . . . To provide clarity on applicable requirement for the ESP when secondary emissions of the BOP furnaces are controlled by the new baghouse system, it is appropriate that these obsolete conditions be removed from the CAAPP permit.
>
> All of the changes to the current CAAPP permit for the Granite City Works that are proposed to be authorized pursuant to this construction permit are set forth in Part 2 of the draft construction permit.

Project Summary at 13 and 15. (Internal citations omitted.)

[2] Project Summary/Statement of Basis for the Planned Issuance of a Construction Permit with Integrated Processing* for an Emission Reduction Project for the Existing Basic Oxygen Process Furnaces at United States Steel Corporation's Granite City Works Granite City, Illinois, Illinois EPA (May 2012). *As this application for a construction permit is being processed with "Integrated Processing," it is intended that certain changes, as specifically identified in the construction permit, if one is issued, would be authorized to be made to the Clean Air Act Permit Program (CAAPP) permit for the source by administrative amendment, as provided for by Section 39.5(13)(c)(v) of Illinois' Environmental Protection Act.

10. Part 2 of the Construction Permit includes the same contested conditions from Condition 7.5 of the CAAPP Permit that are currently the subject of the CAAPP Permit appeal. For the same reasons that the contested conditions were contested in the CAAPP Permit appeal, U.S. Steel is appealing the same conditions at Conditions 7.5.6 and 7.5.13 in Part 2 of the Construction Permit.[3]

11. The above-referenced contested conditions are CAAPP Permit conditions located in Part 2 (Changes that are "Pre-Authorized" to the CAAPP Permit) of the Construction Permit and are wholly consistent with the contested conditions at issue in the CAAPP Permit appeal.

12. The Construction Permit was subject to integrated processing pursuant to Section 39.5(13)(c)(v) of the Act, 415 ILCS 5/39.5(13)(c)(v). The contested CAAPP Permit conditions in Part 2 of the Construction Permit, which authorizes changes to the CAAPP Permit, are subject to Section 40.2(f) requirements. Thus, U.S. Steel requests that the Board grant a stay of the contested CAAPP Permit conditions, as described in Exhibit A, in Part 2 of the Construction Permit during the pendency of the review process, as required by Section 40.2(f) of the Act. A stay of the contested conditions is

[3] Illinois EPA explained the authority for an appeal of a permit subject to integrated processing: "This permit was processed in accordance with Section 39.5(13)(c)(v) of the Act and 35 IAC 270.302(e) using 'integrated processing', i.e., it was subjected to procedural and compliance requirements substantially equivalent to those for a modification of a CAAPP permit. Any person who participated in the public comment process pursuant to 39.5(8) of the Act or any other person who could obtain judicial review pursuant to 41(a) of the Act, may within 35 days after final permit action petition for a hearing before the Illinois Pollution control Board to contest the attachment to the permit, 'Part 2: Changes that are "pre-authorized" to the CAAPP Permit.'" Notice from Illinois EPA regarding Emission Reduction Project (April 1, 2013).

necessary to prevent irreparable harm to U.S. Steel and to protect U.S. Steel's clearly ascertainable right to appeal permit conditions.

13. U.S. Steel is simply requesting that the Board grant the required stay of the same contested CAAPP Permit conditions in Part 2 of the Construction Permit, which have already been stayed by the Board in the CAAPP Permit appeal.

WHEREFORE, Petitioner, UNITED STATES STEEL CORPORATION requests the Board grant a stay of effectiveness with regard to the contested conditions of the Construction Permit, as described herein and in the Petition, and any uncontested conditions, as determined by the Board, during the pendency of the review process.

Respectfully submitted,

UNITED STATES STEEL CORPORATION,
Petitioner,

Dated: May 6, 2013

By: /s/ Katherine D. Hodge
Katherine D. Hodge

Katherine D. Hodge
Monica T. Rios
HODGE DWYER & DRIVER
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(217) 523-4900

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CONTESTED CONDITIONS – Construction Permit Appeal (Permit issued April 1, 2013)

Contested Condition in Part 2 of Construction Permit	Construction Permit Page(s)	Emission Factor
7.5 – Basic Oxygen Processes		
7.5.6(b) – BOF Shop Emissions (tons/yr total) – (Only NOx and VOM annual emission limits)	29	**Annual Emissions:** *NOx*: 70 tpy *VOM:* 12 tpy
7.5.6(c) – BOF ESP Stack (charge, refine, tap)	29	*PM*: 0.16 lbs/ton *PM10*: 0.16 lbs/ton *NOx*: 0.0389 lbs/ton *VOM*: 0.0060 lbs/ton *CO*: 8.993 lbs/ton *Lead*: 0.1934 lbs/hr **Maximum Emissions**: *NOx*: 69.63 tpy *VOM:* 10.74 tpy
7.5.6(c) – BOF ESP Stack – Failure to include note regarding compliance schedule (See Condition 7.5.13)	29	NA
7.5.6(d) – BOF Roof Monitor	29	*PM*: 0.0987 lbs/ton *PM10*: 0.06614 lbs/ton *Lead*: 0.0129 lbs/hr
7.5.6(e) – Hot Metal Desulfurization and Hot Metal Transfer	29	*PM*: 0.03721 lbs/ton *PM10*: 0.03721 lbs/ton *VOM*: 0.0010 lbs/ton *Lead*: 0.0133 lbs/hr
7.5.6(f) – Hot metal charging and ladle slag skimming	29	*PM*: 0.0050 lbs/ton *PM10*: 0.0050 lbs/ton
7.5.6(g) – Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy Baghouse #2)	29-30	*PM*: 0.00715 lbs/ton *PM10*: 0.00715 lbs/ton
7.5.13 – Compliance Schedule and Current Enforcement Status – Failure to include compliance schedule for NOx and VOM emissions from the BOF Shop related to the VN issued November 30, 2012.	61	NA

IN THE CIRCUIT COURT FOR THE THIRD JUDICIAL CIRCUIT
MADISON COUNTY, ILLINOIS

FILED
DEC 18 2007
CLERK OF CIRCUIT COURT 3rd
THIRD JUDICIAL CIRCUIT
MADISON COUNTY, ILLINOIS

PEOPLE OF THE STATE OF ILLINOIS, *ex rel.*, LISA MADIGAN, Attorney General of the State of Illinois,	)	
Plaintiff,	)	
v.	)	No. 05-CH-750
UNITED STATES STEEL CORPORATION, INC., a Delaware Corporation,	)	
Defendant.	)	

CONSENT ORDER

Plaintiff, PEOPLE OF THE STATE OF ILLINOIS, *ex. rel.* LISA MADIGAN, Attorney General of the State of Illinois, the Illinois Environmental Protection Agency ("Illinois EPA"), and Defendant, UNITED STATES STEEL CORPORATION (incorrectly identified as UNITED STATES STEEL CORPORATION, INC.), have agreed to the making of this Consent Order and submit it to this Court for approval.

I. INTRODUCTION

This stipulation of facts is made and agreed upon for purposes of settlement only and as a factual basis for the Court's entry of the Consent Order. None of the facts stipulated herein shall be introduced into evidence in any other proceeding regarding the violations of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/1, *et seq.* (2006), and the Illinois Pollution Control Board ("Board") Regulations, alleged in the Complaint, except as otherwise provided herein. It is the intent of the Plaintiff and Defendant to this Consent Order that it be a final judgment on the merits of this matter.

A. Parties

1. On September 14, 2005, a Complaint was filed on behalf of the People of the State of Illinois by Lisa Madigan, Attorney General of the State of Illinois, on her own motion and upon the request of the Illinois EPA pursuant to Section 42(d) and (e) of the Act, 415 ILCS 5/42(d) and (e) (2006), against the Defendant. On November 27, 2006, the People moved to supplement the complaint with an additional count, Count VII, to the complaint. That motion was granted on December 7, 2006, and the First Supplemental Complaint was entered. On October 16, 2007, the Plaintiff and Defendant entered a stipulation in which the People requested permission to file a Second Supplemental Complaint to add Counts VIII and IX and Defendant did not object. On October 17, 2007, the request was granted and the Second Supplemental Complaint was entered.

2. The Illinois EPA is an administrative agency of the State of Illinois, created pursuant to Section 4 of the Act, 415 ILCS 5/4 (2006).

3. At all times relevant to the Complaint, Defendant United States Steel Corporation was and is a Delaware corporation that is authorized to transact business in the State of Illinois, and owned and operated integrated iron and steel mill located at 20th Street and State Street, Granite City, Madison County, Illinois ("steel mill").

B. Allegations of Non-Compliance

As set forth in Plaintiff's Complaint, Plaintiff's First Supplemental Complaint, and Plaintiff's Second Supplemental Complaint, Plaintiff contends that the Defendant has violated the following provisions of the Act and Board Regulations:

Count I: Sections 9(a) and (b) of the Act, 415 ILCS 5/9(a), (b) (2006), Sections 212.324(f), 212.207, and 212.309(a) of the Board's Air

	Pollution Regulations, 35 Ill. Adm. Code 212.324(f), 212.207, 212.309(a) and operating permit 83050042.
Count II:	Sections 9(a) and (b) of the Act, 415 ILCS 5/9(a), (b) (2006), Section 212.443(c)(1)(A) of the Board's Air Pollution Regulations, 35 Ill. Adm. Code 212.443(c)(1)(A), Standard Condition 7 and Special Conditions 1(a) & (b) of operating permit 88070071 and Special Condition 2(b) of operating permit 82060043.
Count III:	Sections 9(a) and (b) of the Act, 415 ILCS 5/9(a), (b), (2006), Sections 212.307 and 212.309(a) of the Board's Air Pollution Regulations, 35 Ill. Adm. Code 212.307 and 212.309(a), and Standard Condition 7 of operating permit 72080034 and 72080036.
Count IV:	Sections 9(a), (b) and 9.1(d) of the Act, 415 ILCS 5/9(a), (b), 9.1(d) (2006), 40 CFR 63.304(b)(2)(iv), Sections 212.443(b)(1)(A) and 201.141 of the Board's Air Pollution Regulations, 35 Ill Adm. Code 212.443(b)(1)(A) and 201.141, Special Condition 5 of operating permit 80050010, and Special Condition 6 of operating permit 82060043.
Count V:	Sections 9(a) and (b) of the Act, 415 ILCS 5/9(a), (b), (2006), Section 201.141 of the Board's Air Pollution Regulations, 35 Ill. Adm. Code 201.141, Special Condition 18 of revised operating permit 95010001.
Count VI:	Sections 9(a) and 9.1(d) of the Act, 415 ILCS 5/9(a), 9.1(d) (2006), Section 40 CFR 63.309(b)(2)(i)(B), and Sections 212.443(d)(2) and 201.141 of the Board's Air Pollution Regulations, 35 Ill. Adm. Code 212.443(d)(2) and 201.141.
Count VII:	Section 9(a) of the Act, 415 ILCS 5/9(a) (2006).
Count VIII:	Sections 9(a) and 9(b) of the Act, 415 ILCS 5/9(a), (b) (2006), Section 212.446(c) of the Board's Air Pollution Regulations, 35 Ill. Adm. Code 212.446(c), and Condition 8 of Defendant's Operating Permit #95010001.
Count IX:	Sections 9.1(d)(1), (d)(2) and 9(b) of the Act, 415 ILCS 5/9.1(d)(1), (d)(2), 9(b) (2006), Sections 165(a)(1) and 165(a)(4) of the Clean Air Act, 42 U.S.C.A. § 7475(a)(1), (a)(4) (2006), 40 CFR 52.21(j)(l) and (j)(3), and 40 CFR 52.21(r)(l), and Condition 22 of Defendant's Operating Permit #95010001.

C. Non-Admission of Violation

The Defendant represents that it has entered into this Consent Order for the purpose of settling and compromising disputed claims without having to incur the expense of contested litigation. By entering into this Consent Order and complying with its terms, the Defendant does not affirmatively admit the allegations of violation within the Complaint and referenced above, and this Consent Order shall not be interpreted as including such admission.

D. Compliance Activities to Date

1. The Ladle Metallurgy Facility ("LMF")

a. Defendant developed and implemented mechanical and electrical inspection procedures to assure proper operation of the No. 1 baghouse. Defendant also modified the discharge chute of the No. 1 baghouse to maintain a positive connection between the chute and the plastic tote bag used to contain the captured baghouse dust. Also, Defendant modified the synthetic slag addition emission collection hood to improve capture efficiency.

2. The Coke Oven Pushing Operation

a. Defendant revised and implemented its enhanced operating and maintenance plan for its coke oven pushing operations.

b. Defendant completed the installation of the constant heat system for Coke Batteries A and B to provide more consistent heating of the batteries.

c. Defendant completed the installation of the coke guide pyrometers for Coke Batteries A and B to evaluate the carbonization of the coke mass during the push.

d. Defendant completed the installation of the direct spray primary cooler for the Coke Plant By-Products Facility to improve the coke oven gas quality to minimize fouling of the battery underfire systems.

e. Defendant completed the implementation of the data analysis system to predict the heat input for complete carbonization of the coke mass.

3. Blast Furnaces A and B

a. Defendant modified the iron spout baghouse fume collection hoods to minimize hood openings. Defendant has also completed repairs to iron spout baghouse dust handling screw conveyor system and fume collection ductwork.

4. The Coke Oven By-Products Plant

a. Defendant made appropriate repairs to all exhausters. Operating and maintenance procedures have been implemented to prevent recurrence.

5. The Slag Skimming Station Baghouse

a. Defendant installed a new multi-compartment baghouse to collect and control hot metal slag skimming emissions.

6. Coke Oven Doors

a. Defendant implemented NESHAP work practices in accordance with 40 CFR 63, Subpart L.

b. Defendant took steps to ensure an adequate supply of coke oven doors, including by entry into a relationship with a new local contractor to rebuild coke oven doors as necessary.

7. Air Pollution Violation

a. At the time of the coke oven gas release on February 28, 2006, Defendant maximized the consumption of coke oven gas and reduced coke oven operations to minimize the amount of coke oven gas released. The failed linkage to the flare stack butterfly valve was repaired, re-establishing flow of excess coke oven gas to the flare stack.

8. The Basic Oxygen Furnace

a. Defendant completed extensive repairs to the Basic Oxygen Furnace air pollution capture and control equipment and implemented an enhanced inspection and maintenance program for the Basic Oxygen Furnace.

b. Defendant has retained an engineering consultant to evaluate the significant sources of Basic Oxygen Furnace roof emissions and to identify options for additional emissions reductions.

9. The Blast Furnace Gas SO2 Emissions

a. Defendant completed SO2 modeling required for the application to revise the PSD Construction Permit.

II. APPLICABILITY

This Consent Order shall apply to and be binding upon the Plaintiff and the Defendant, and any officer, director, agent, or employee of the Defendant, as well as any successors or assigns of the Defendant. The Defendant waives as a defense to any enforcement action taken pursuant to this Consent Order the failure of any of its officers, directors, agents, employees or successors or assigns to take such actions as shall be required to comply with the provisions of this Consent Order. This Consent Order may be used against the Defendant in any subsequent enforcement action or permit proceeding as proof of a past adjudication of violation of the Act and the Board Regulations for all violations alleged in the Complaint in this matter, for purposes of Sections 39, 39.5, and 42 of the Act, 42 ILCS 5/39, 5/39.5, and 5/42 (2006).

The Defendant shall notify each contractor to be retained to perform work required in this Consent Order of each of the requirements of this Consent Order relevant to the activities to be performed by that contractor, including all relevant work schedules and reporting deadlines, and

shall provide a copy of this Consent Order to each contractor already retained no later than thirty (30) calendar days after the date of entry of this Consent Order. In addition, the Defendant shall provide copies of all schedules for implementation of the provisions of this Consent Order to the prime vendor(s) supplying the control technology systems and other equipment required by this Consent Order.

No change in ownership, corporate status or operator of the facility shall in any way alter the responsibilities of the Defendant under this Consent Order. In the event that the Defendant proposes to sell or transfer any real property or operations subject to this Consent Order, the Defendant shall notify the Plaintiff thirty (30) calendar days prior to the conveyance of title, ownership or other interest, including a leasehold interest in the facility or a portion thereof. Defendant shall make as a condition of any such sale or transfer, that the purchaser or successor provide to Defendant site access and all cooperation necessary for Defendant to perform to completion any compliance obligation(s) required by this Consent Order. The Defendant shall provide a copy of this Consent Order to any such successor in interest and the Defendant shall continue to be bound by and remain liable for performance of all obligations under this Consent Order. In appropriate circumstances, however, the Defendant and a proposed purchaser or operator of the facility may jointly request, and the Plaintiff, in its discretion, may consider modification of this Consent Order to obligate the proposed purchaser or operator to carry out future requirements of this Consent Order in place of, or in addition to, the Defendant. This provision does not relieve the Defendant from compliance with any regulatory requirement regarding notice and transfer of applicable facility permits or permit applications.

III. JUDGMENT ORDER

This Court has jurisdiction of the subject matter herein and of the Plaintiff and Defendant consenting hereto and, having considered the stipulated facts and being advised in the premises, finds the following relief appropriate:

IT IS HEREBY ORDER, ADJUDGED AND DECREED:

A. Penalty

The Defendant shall pay a civil penalty of Three-Hundred Thousand Dollars ($300,000.00) within thirty (30) days of the date of entry of this Consent Order in a manner prescribed below.

B. Stipulated Penalties, Interest and Default

1. If the Defendant fails to complete any activity or fails to comply with any response or reporting requirement by the date specified in this Consent Order, the Defendant shall provide notice to the Plaintiff of each failure to comply with this Consent Order and shall pay stipulated penalties in the amount of $500.00 per day per violation until such time that compliance is achieved. The Plaintiff shall make a demand for stipulated penalties upon the Defendant for its noncompliance with this Consent Order. However, failure by the Plaintiff to make this demand shall not relieve the Defendant of the obligation to pay stipulated penalties. All stipulated penalties shall be payable within thirty (30) calendar days of the date of Plaintiff's demand for stipulated penalties upon the Defendant for its noncompliance with any provision of this Consent Order.

2. If the Defendant fails to make any payment required by this Consent Order on or before the date upon which the payment is due, the Defendant shall be in default and the remaining unpaid balance of the penalty plus any accrued interest, shall be due and owing

immediately. In the event of default, the Plaintiff shall be entitled to reasonable costs of collection, including reasonable attorney's fees.

3. Pursuant to Section 42(g) of the Act, interest shall accrue on any penalty amount owed by the Defendant not paid within the time prescribed herein. Interest on unpaid penalties shall begin to accrue from the date such are due and continue to accrue to the date full payment is received. Where partial payment is made on any penalty amount that is due, such partial payment shall be first applied to any interest on unpaid penalties then owing.

C. **Payment Procedures**

All payments required by this Consent Order shall be made by certified check or money order payable to the Illinois EPA for deposit into the Environmental Protection Trust Fund ("EPTF"). Payments shall be sent by first class mail and delivered to:

Illinois Environmental Protection Agency
Fiscal Services
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

The name, case number and the Defendant's federal tax identification number shall appear on the face of the certified check or money order. A copy of the certified check or money order and any transmittal letter shall be sent to:

Environmental Bureau
Illinois Attorney General's Office
500 South Second Street
Springfield, IL 62706

D. Future Compliance

1. General Compliance

a. The Attorney General, her employees and representatives, shall have the right of entry into and upon the Defendant's facility that is the subject of this Consent Order, at all reasonable times for the purposes of conducting inspections and evaluating compliance status. In conducting such inspections, the Attorney General, her employees and representatives, may take photographs, samples, and collect information, as they deem necessary, and shall comply with all of the Defendant's safety requirements for all personnel entering the Defendant's facility.

b. This Consent Order in no way affects the responsibilities of the Defendant to comply with any other federal, state or local laws or regulations, including but not limited to the Act and the Board Regulations.

c. The Defendant shall cease and desist from future violations of the Act and state and federal regulations that were the subject matter of the complaint, except that, for those violations covered by compliance schedules set forth in III.D.2, 3, and 4, implementation of the cease and desist requirement shall be consistent with the compliance schedule.

2. Compliance Schedule for the Uncaptured Emissions from the Coke Oven Pushing Operation

a. Coke Oven Pushing Opacity Reading Methodology and Limitations

i. Opacity reading methodology and limitations for uncaptured emissions from the coke oven pushing operation

The following methods shall be utilized to conduct opacity readings of uncaptured particulate matter emissions from pushing operations at Coke Oven Battery A and B during the initial and additional compliance demonstrations.

Opacity readings shall be taken by a qualified observer located in a position where the oven being pushed, the coke receiving car, and the path to the quench tower are visible. The opacity shall be read as the emissions rise and clear the top of the coke battery gas mains. The opacity readings shall be taken in accordance with the procedures set forth in 40 CFR 60, Appendix A, Method 9. Opacity readings shall be taken at 15-second intervals, beginning from the time the coke falls into the receiving car or is first visible as it emerges from the coke guide, whichever is first.

The qualified observer shall record opacity readings of pushing emissions originating at the receiving car and associated equipment and the coke oven, including the standpipe on the coke side of the oven being pushed. The qualified observer referenced shall be certified pursuant to 40 CFR 60, Appendix A, Method 9. The data reduction of Section 2.5 of 40 CFR 60, Appendix A, Method 9 shall not be used.

ii. **Battery specific methodology and limitations**

For Coke Oven Battery A, the readings shall begin as referenced above and continue until the receiving car enters the quench tower or quenching device. The emissions of uncaptured particulate matter from pushing operations shall not exceed an average of 20 percent opacity for four (4) consecutive pushes considering the highest average of six (6) consecutive readings in each push. For a push with a duration of less than 90-seconds, the actual number of 15-second readings will be averaged.

For Coke Oven Battery B, the readings shall begin as referenced above and end with the sixth reading. The emissions of uncaptured particulate matter shall not exceed 20 percent opacity based on the average of the six (6) consecutive readings.

b. Compliance Demonstration

i. Within forty-five (45) days of entry of this Consent Order, Defendant shall demonstrate that the uncaptured emissions from the coke oven pushing operation comply with the 20% opacity limitations consistent with the procedures in Section III.D.2.a. The Defendant's visible emissions readings shall occur over a period of three (3) consecutive days, if possible given the meteorological conditions, but regardless of the conditions, the three (3) days of readings must occur over a period no longer than five (5) days. During this period, Defendant shall read a minimum of twenty (20) pushes per day, with readings from at least eight (8) pushes per each battery per day.

ii. Within 15 days of entry of this order, or January 3, 2008, whichever is later, Defendant shall submit a protocol(s) to the Illinois EPA for review and comment, which protocol shall address the opacity testing required under Section III.D.2.b.i and Section III.D.2.c.i. The test protocol shall describe the specific procedures for testing and include at a minimum:

(a) The test date.

(b) A requirement for final confirmation to the Illinois EPA Field Operations Section and the Compliance Assurance and Source Monitoring Section of the test date and time of the test at least five (5) days prior to the test date.

(c) The identification of individual(s)/entity conducting the test.

(d) The specific conditions under which testing will be performed.

(e) The test methodology, consistent with Section III.D.2.a.

(f) The format and content of the final test report.

iii. Within 30 days of the conclusion of the compliance demonstration required by Section III.D.2.b.i, Defendant shall prepare a final report of its compliance demonstration and submit the report to the Illinois EPA. That report shall include, but not be limited to:

(a) A descriptive and table summary of results.

(b) General information including but not limited to the name, location and identification of the emission source(s) tested, date(s) of testing, names of personnel and entities performing the tests, and Illinois EPA observers, if any.

(c) A detailed description of test conditions.

(d) Data and calculations, including copies of all raw data sheets with all recorded observations regardless of whether used to determine compliance.

(e) The test methods, consistent with Section III.D.2.a.

c. Additional Compliance Demonstration

i. By March 31, 2008, for both Batteries, using the protocol(s) approved per paragraph D.2.b.ii., above, Defendant shall demonstrate that the uncaptured emissions from coke oven pushing operation comply with the 20% opacity limitations consistent with the procedures in Section III.D.2.a. To this end, Defendant shall perform opacity testing on each oven and further shall observe at least four (4) pushes on each battery per day.

ii. Within 30 days of the conclusion of this additional compliance demonstration, Defendant shall prepare a report of its additional compliance demonstration and submit the report to the Agency. That report shall include, but not be limited to:

(a) A descriptive and table summary of results.

(b) General information including but not limited to the name, location and identification of the emission source(s) tested,

date(s) of testing, names of personnel and entities performing the tests, and Illinois EPA observers, if any.

(c) Detailed description of test conditions.

(d) Data and calculations, including copies of all raw data sheets with all recorded observations regardless of whether used to determine compliance.

(e) The test methods, consistent with Section III.D.2.a.

iii. In the event that during the additional compliance demonstration, Defendant observes an exceedance of the opacity limitations applicable to uncaptured emissions from the Coke Oven Pushing operation, Defendant shall: (A) provide notification of such exceedance by electronic mail or facsimile to the Illinois EPA Bureau of Air Field Inspector assigned to the U. S. Steel Granite City Works, and to the Illinois EPA Bureau of Air Field Operations Section Manager at the Collinsville Regional Office, within five days of such observation; and (B) submit a certified written report regarding such exceedance to Illinois EPA within fifteen days of such observation. Such written report shall address, to the extent known, the cause of the exceedance, any steps taken to mitigate the exceedance and any steps taken or to be taken by Defendant to prevent such exceedance from reoccurring.

d. Within 30 days of entry of this order, Defendant shall submit a copy of the MACT Operations and Maintenance Plan for the coke ovens, as required by 40 CFR Part 63, Subpart CCCCC, and as enhanced in accordance with Defendant's written responses to comments that have been tendered to Defendant by the Illinois EPA, including but not limited to comments regarding the quench box, pushing control system spare diesel engines, timeframe for implementing repairs, and procedures for identifying green ends, to the Illinois EPA contacts referenced in Section III.H. of this order.

e. Continuing Compliance for Uncaptured Emissions from Coke Oven Pushing Operation.

i. In the event uncaptured pushing emissions at an oven in Battery A or Battery B exceed the 20% opacity limit pursuant to the procedures in Section III.D.2.a, Defendant shall determine the cause of the exceedance and shall implement necessary measures, including any corrective actions and/or preventative measures. Defendant shall prepare and maintain a record of any such event.

ii. Defendant shall adhere to the most current enhanced MACT Operations and Maintenance Plan for the coke ovens, as required by 40 CFR Part 63, Subpart CCCCC, and as revised in accordance with paragraph III.D.2.d. above, which plan prescribes operations and maintenance procedures as well as monitoring. Such plan shall be reviewed at least quarterly and amended by the Defendant, as necessary, within 30 days after the end of each quarter, so that the plan is current and sufficient to assure compliance with 40 CFR Part 63, Subpart CCCCC, 35 Ill. Adm. Code 212.443(c)(1)(A) and (B), and the consent decree with appendix entered in *United States of America* v. *National Steel Corporation*, civil action no. 81-3009.

iii. Defendant shall read at least four (4) consecutive pushes per day at Battery A and one (1) push per day at Battery B in accordance with the procedures in Section III.D.2.a.

3. Compliance Schedule for the Basic Oxygen Furnace

a. Within 30 days of entry of this order, Defendant shall submit a copy of the enhanced inspection and maintenance program for the Basic Oxygen Furnace to the Illinois EPA.

b. By January 31, 2008, Defendant shall complete an engineering study regarding an evaluation of the significant sources of Basic Oxygen Furnace shop roof emissions, including an evaluation of the sufficiency of: current operating practices and parameters and current air pollution capture and control equipment. The engineering study also shall identify options for additional reductions in emissions from the roof of the Basic Oxygen Furnace shop.

c. By February 29, 2008, Defendant shall submit the results of the engineering study to Plaintiff for its review.

d. By March 31, 2008, Defendant shall submit a compliance schedule detailing the recommendations that will be implemented and the schedule for such implementation. Any recommendations from the engineering study that the Defendant proposes to not implement must be accompanied by a detailed justification as to why. Defendant shall be required to implement such recommendations or other measures necessary to assure compliance. The compliance schedule shall also include the other measures necessary to assure compliance with the Act and state and federal regulations including but not limited to operating practices, maintenance practices and monitoring that will be implemented, and the schedule for such implementation.

e. By June 30, 2008, Defendant shall have implemented the compliance schedule as described above.

f. By July 31, 2008, Defendant shall demonstrate compliance with the requirements of Section 212.446(c) of the Board's Air Pollution Regulations, 35 Ill. Adm. Code 212.446(c), with compliance based upon the compliance determination methodology specified herein at III.D.3.g. In the interim, Defendant shall continue its implementation of the enhanced inspection and maintenance program for the Basic Oxygen Furnace shop.

g. The compliance demonstration shall consist of Method 9 opacity readings from openings in the building housing the Basic Oxygen Furnace shop. Such readings must be conducted for three (3) one-hour periods per day, two (2) days per week for four (4) weeks beginning July 1, 2008, and ending July 31, 2008. Compliance shall be determined in accordance with 40 CFR Appendix A, Method 9 except that compliance shall be determined by averaging any 12 consecutive observations taken at 15 second intervals.

h. By June 1, 2008, Defendant shall submit a protocol(s) to the Illinois EPA for review and comment that shall address the opacity testing required under Section III.D.3.f above. The test protocol shall describe the specific procedures for testing and include at a minimum:

(i) The identification of individual(s)/entity conducting the test.

(ii) The specific conditions under which testing will be performed including but not limited to the manner of operation of the Basic Oxygen Furnace.

(iii) The test methodology, consistent with Section III.D.3.g.

(iv) The format and content of the final test report.

i. By March 31, 2008, Defendant shall submit to Plaintiff a request for modification, pursuant to Section III.F.2 of this Consent Order, to modify the compliance deadline of July 31, 2008, consistent with Section III.D.3.d and for the purposes of Section III.D.3.f.

j. Defendant shall submit a quarterly progress report to the Plaintiff for the first quarter of 2008, by May 1, 2008. Each quarter thereafter, Defendant shall submit a

quarterly report, until such time as the compliance plan as been fully implemented and the source has returned to compliance, within 30 days of the end of the quarter.

4. Compliance Schedule for the Blast Furnace Gas SO2 Emissions

a. On or before January 31, 2008, Defendant shall prepare and submit to the Illinois EPA a complete and accurate application, including required SO2 modeling, to revise the PSD Construction Permit for the Production Increase, issued by the Illinois EPA on July 23, 1996 (Application No. 95010001), as necessary to reflect the corrected emission factor for the Blast Furnace Gas SO2 emissions.

b. In the interim, Defendant shall use the correct emission factor for the Blast Furnace Gas SO2 emissions in calculating, recording, and reporting SO2 emissions and for any other purposes under the Act.

c. Defendant shall work with the Illinois EPA, including providing additional information to the Illinois EPA, when requested, and shall obtain a revised PSD Construction Permit to resolve the Blast Furnace Gas SO2 Emissions issue.

d. Defendant shall submit a quarterly progress report to the Plaintiff for the first quarter of 2008, by May 1, 2008. Each quarter thereafter, Defendant shall submit a quarterly report, until such time as the compliance plan as been fully implemented and the source has returned to compliance, within 30 days of the end of the quarter.

5. Defendant shall continue to implement on an ongoing basis the steps it has already taken to achieve compliance, as set forth in Section I.D., Compliance Activities to Date, above, as well as to comply with any and all operations and maintenance plans or procedures that apply to the facilities and operations discussed in Section I.D., Compliance Activities to Date, above.

E. *Force Majeure*

1. *Force majeure* is an event arising solely beyond the control of the Defendant, which prevents the timely performance of any of the requirements of this Consent Order and shall include, but is not limited to, events such as floods, fires, tornadoes, other natural disasters, and labor disputes and unavailability of necessary equipment beyond the reasonable control of the Defendant. An increase in costs associated with implementing any requirement of this Consent Order shall not, by itself, excuse the Defendant for a failure to comply with such a requirement.

2. When a *force majeure* event occurs which causes or may cause a delay in the performance of any of the requirements of this Consent Order, the Defendant shall orally notify the Plaintiff within forty-eight (48) hours of the occurrence. Written notice shall be given to the Plaintiff as soon as practicable, but no later than ten (10) calendar days after the claimed occurrence. This section shall be of no effect as to the particular event involved if the Defendant fails to comply with these notice requirements.

3. Within ten (10) calendar days of receipt of any written *force majeure* notice, the Plaintiff shall respond in writing regarding the Defendant's claim of a delay or impediment to performance. If the Plaintiff agrees that the delay or impediment to performance has been or will be caused by circumstances beyond the control of the Defendant and that the Defendant could not have prevented the delay by the exercise of due diligence, the Plaintiff and Defendant shall stipulate to an extension of the required deadline(s) for all requirement(s) affected by the delay, by a period equivalent to the delay actually caused by such circumstances. Such stipulation may be filed as a modification to this Consent Order. The Defendant shall not be liable for stipulated penalties for the period of any such stipulated extension.

4. If the Plaintiff does not accept the Defendant's claim of a *force majeure* event, the Defendant must file a petition with the Court within twenty (20) calendar days of receipt of the Plaintiff's determination in order to contest the imposition of stipulated penalties. The Plaintiff shall have twenty (20) calendar days to file its response to said petition. The burden of proof of establishing that a *force majeure* event prevented the timely performance shall be upon the Defendant. If this Court determines that the delay or impediment to performance has been or will be caused by circumstances solely beyond the control of the Defendant and that the Defendant could not have prevented the delay by the exercise of due diligence, the Defendant shall be excused as to that event (including any imposition of stipulated penalties), for all requirements affected by the delay, for a period of time equivalent to the delay or such other period as may be determined by this Court.

F. **Enforcement and Modification of Consent Order**

1. This Consent Order is a binding and enforceable order of this Court. Except as set forth in Section III.J below, this Court shall retain jurisdiction of this matter and shall consider any motion by Plaintiff or Defendant, for the purposes of interpreting and enforcing the terms and conditions of this Consent Order.

2. The Plaintiff and the Defendant may, by mutual written consent, extend any compliance dates or modify the terms of this Consent Order without leave of this Court. A request for any modification shall be made in writing and submitted to the designated representatives. Any such request shall be made by separate document, and shall not be submitted within any other report or submittal required by this Consent Order. Any such agreed modification shall be in writing and signed by authorized representatives of the Plaintiff and the Defendant, for filing and incorporation by reference into this Consent Order.

G. Dispute Resolution

1. Except as provided herein, the Plaintiff and Defendant may seek to informally resolve disputes arising under this Consent Order, including but not limited to the Illinois EPA's decision regarding appropriate or necessary response activity, approval or denial of any report, plan or remediation objective, or the Plaintiff's rejection of a request for modification or termination of the Consent Order. The Plaintiff reserves the right to seek enforcement by the Court where the Defendant has failed to satisfy any compliance deadline within this Consent Order. The following are also not subject to the dispute resolution procedures provided by this section: a claim of *force majeure*, a failure to make any required payment and any circumstances posing a substantial danger to the environment or to the public health or welfare of persons.

2. The dispute resolution procedure must be invoked by a party through a written notice describing the nature of the dispute and the party's position with regard to such dispute. The other party shall acknowledge receipt of the notice and schedule a meeting to discuss the dispute informally not later than fourteen (14) calendar days from the receipt of such notice. These informal negotiations shall be concluded within thirty (30) calendar days from the date of the first meeting between the Plaintiff and Defendant, unless the Plaintiff and Defendant agree, in writing, to shorten or extend this period. The invocation of dispute resolution, in and of itself, shall not excuse compliance with any requirement, obligation or deadline contained herein, and stipulated penalties may be assessed for failure or noncompliance during the period of dispute resolution. As part of the resolution of any dispute, the Plaintiff and Defendant, by agreement or by order of this Court, may extend or modify the schedule for completion of work under this Consent Order to account for the delay in the work that occurred as a result of dispute resolution.

3. In the event that the Plaintiff and Defendant are unable to reach agreement during the informal negotiation period, the Plaintiff shall provide the Defendant with a written summary of its position regarding the dispute. The position advanced by the Plaintiff shall be considered binding unless, within twenty (20) calendar days of the Defendant's receipt of the written summary of the Plaintiff's position, the Defendant files a petition with this Court seeking judicial resolution of the dispute. The Plaintiff shall respond to the petition by filing the administrative record of the dispute and any argument responsive to the petition within twenty (20) calendar days of service of the Defendant's petition. The administrative record of the dispute shall include the written notice of the dispute, any responsive submittals, the Plaintiff's written summary of its position, the Defendant's petition before the court and the Plaintiff's response to the petition. The Plaintiff's position shall be affirmed unless, based upon the administrative record, it is against the manifest weight of the evidence.

H. Notice and Submittals

Except for payments, the submittal of any notice, reports or other documents required under this Consent Order, shall be delivered to the following designated representatives:

As to the Plaintiff

Kristen Laughridge Gale
Assistant Attorney General
Environmental Bureau
500 South Second Street
Springfield, IL 62706

Chris Pressnall
Division of Legal Counsel
Illinois EPA
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Ray Pilapil
Bureau of Air
Section Manager, Compliance Assurance and Source Monitoring
Illinois EPA
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Jeff Benbenek
Bureau of Air
Illinois EPA
2009 Mall Street
Collinsville, IL 62234

As to the Defendant

David Smiga
United States Steel Corporation
600 Grant Street, Room 1500
Pittsburgh, PA 15219

David W. Hacker
United States Steel Corporation
600 Grant Street, Room 1500
Pittsburgh, PA 15219

Larry Siebenberger
United States Steel Corporation, Granite City Works
1951 State Street
Granite City, Illinois 62040

I. Release from Liability

In consideration of the Defendant's payment of a $300,000.00 penalty and upon completion of all activities required under Section III.D.2.a-d, 3, and 4. of this Consent Order,

the Plaintiff releases, waives and discharges the Defendant from any further liability or penalties for violations of the Act and state and federal regulations that were the subject matter of the Complaints herein. The release set forth above does not extend to any matters other than those expressly specified in the Plaintiff's Complaint filed on September 15, 2005, Plaintiff's First Supplemental Complaint filed on December 7, 2006, and Plaintiff's Second Supplemental Complaint filed on October 17, 2007. The Plaintiff reserves, and this Consent Order is without prejudice to, all rights of the State of Illinois against the Defendant with respect to all other matters, including but not limited to, the following:

a. criminal liability;

b. liability for future violations;

c. liability for natural resources damage arising out of the alleged violations; and

d. the Defendant's failure to satisfy the requirements of this Consent Order.

Nothing in this Consent Order is intended as a waiver, discharge, release, or covenant not to sue for any claim or cause of action, administrative or judicial, civil or criminal, past or future, in law or in equity, which the State of Illinois or the Illinois EPA may have against any person, as defined by Section 3.315 of the Act, 415 ILCS 5/3.315 (2006), other than the Defendant.

J. Termination

1. The Defendant may request that this Consent Order terminate no sooner than twelve (12) months after the Defendant has completed all actions required of the Defendant under Sections III.D.2.a-d, 3, and 4 of this Consent Order, provided that the Defendant has been in continuous compliance with the terms of the Consent Order for the twelve (12) months preceding the request; or after a Title V CAAPP permit is issued by the Illinois EPA to the Defendant, whichever date is later. Any such request must be made by notice to the Plaintiff and

include a statement that the Defendant has completed all actions required by Sections III.D.2.a-d, 3, and 4 of this Consent Order and has been in continuous compliance with the terms of the Consent Order for the twelve (12) months preceding the request and the following certification by a responsible corporate official of the Defendant:

> I certify under penalty of law that this statement was prepared under my direction or supervision, and that the information submitted in or accompanying this statement of final compliance is to the best of my knowledge true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and or imprisonment for knowing violations.

2. The Plaintiff shall notify the Defendant of its decision on the request within forty-five (45) calendar days of the Plaintiff's receipt of the request. If the Plaintiff agrees to terminate this Consent Order, the Plaintiff and the Defendant shall jointly file a notice with the Court that the Consent Order is terminated. If the Plaintiff does not agree to terminate this Consent Order, the Plaintiff shall provide the Defendant written notification stating the reasons why this Consent Order should not be terminated and the Defendant may then invoke the Dispute Resolution provisions. The Consent Order shall remain in effect pending resolution of any dispute between the Plaintiff and Defendant or the Court concerning whether the Defendant has completed its obligations under this Consent Order and is in compliance with the terms of the Consent Order. The provisions of Section III.I. shall survive and shall not be subject to and are not affected by the termination of any other provision of this Consent Order.

K. **Execution and Entry of Consent Order**

This Order shall become effective only when executed by the Plaintiff, the Defendant, and the Court. This Order may be executed by the Plaintiff, the Defendant, and the Court in one or more counterparts, all of which taken together, shall constitute one and the same instrument.

The undersigned representatives for the Plaintiff and the Defendant certify that they are fully authorized by the party whom they represent to enter into the terms and conditions of this Consent Order and to legally bind them to it.

WHEREFORE, the Plaintiff and the Defendant, by their representatives, enter into this Consent Order and submit it to this Court that it may be approved and entered.

PEOPLE OF THE STATE OF ILLINOIS, *ex rel.*, LISA MADIGAN, Attorney General of the State of Illinois, v. UNITED STATES STEEL CORPORATION, INC., No. 05-CH-750
(CIRCUIT COURT, MADISON COUNTY, ILLINOIS)

CONSENT ORDER

FOR THE PLAINTIFF:

PEOPLE OF THE STATE OF ILLINOIS
ex rel. LISA MADIGAN,
Attorney General of the
State of Illinois

MATTHEW J. DUNN, Chief
Environmental Enforcement/
Asbestos Litigation Division

BY: _____
THOMAS E. DAVIS, Chief
Environmental Bureau
Assistant Attorney General

DATE: 12/17/07

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

BY: _____
ROBERT A. MESSINA
Chief Legal Counsel

DATE: 12/17/07

PEOPLE OF THE STATE OF ILLINOIS, *ex rel.*, LISA MADIGAN, Attorney General of the State of Illinois, v. UNITED STATES STEEL CORPORATION, INC., No. 05-CH-750 (CIRCUIT COURT, MADISON COUNTY, ILLINOIS)

CONSENT ORDER

FOR THE DEFENDANT:

UNITED STATES STEEL CORPORATION

BY: _____
JAMES B. GARRAUX
General Counsel and Senior Vice President – Labor Relations & Environmental Affairs

DATE: 12-18-2007

BY: _____
DAVID W. HACKER
Attorney - Environmental

DATE: 12-18-2007

PEOPLE OF THE STATE OF ILLINOIS, *ex rel.*, LISA MADIGAN, Attorney General of the State of Illinois, v. UNITED STATES STEEL CORPORATION, INC., No. 05-CH-750 (CIRCUIT COURT, MADISON COUNTY, ILLINOIS)

CONSENT ORDER

ENTERED:

JUDGE

DATE: 18 Dec 2009

Bureau of Air Permit Section

File Organization Cover Sheet

Source Name:	Granite City Works of United States Steel Corp	
ID No.:	119813AAI	
Application No.:	95010001	
Category:	03M Air Permit - Construction	
Item Date:	5/8/2024	
Keyword:	Choose an item. FINAL	*
Comment:		*
Part:	Choose an item. of Choose an item.	*

* If applicable

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
JB PRITZKER, GOVERNOR JOHN J. KIM, DIRECTOR

217/785-1705

CERTIFIED MAIL
7021 1970 0001 8412 0340

DENIAL OF AN APPLICATION FOR REVISIONS TO A CONSTRUCTION PERMIT/PSD APPROVAL[1]

May 8, 2024

U.S. Steel Granite City
Attn: Krista Armentrout - Environmental Manager
1951 State Street
Granite City, Illinois 62040

Permit/Application No.: 95010001 I. D. No.: 119813AAI
Date Permit Originally Issued: January 25, 1996
Date Application for Revisions Received: October 7, 2022
Subject of Permit: Production Increase
Location: Granite City Works, Southeastern Granite City

The Illinois EPA has reviewed your above referenced application for revisions to the above-referenced construction permit/Prevention of Significant Deterioration (PSD) approval (Permit 95010001) issued for the above referenced project. The permit application is DENIED because, if a revision to Permit 95010001 were issued as requested by this application, it might violate various Sections of the Illinois Environmental Protection Act (Act) and various provisions in Illinois' regulation pursuant to the Act. The Sections of the Act that might be violated include Sections 9(a), 9(b)(2), 9.1(d), 39(a), 39.5(5)(e), 39.5(7)(a), 39.5(5)(i), 39.5(10)(a)(iv) and 39.5(13)(c)(v). The provisions of the relevant Illinois regulations, i.e., Subtitle B of Title 35 of the Illinois Administrative Code (IAC), that might be violated include 35 IAC 201.152, 201.160(a), 203.123, 203.128, 203.201, 203.203(b), 203.208, 203.301, 203.302, 204.280, 204.330, 204.400, 204.550, 204.560, 204.810, 204.1100(c), 204,1110, 204.1130 and 270.401(f).

The specific Sections of the Act and the specific provisions of the Illinois Administrative Code that may not be met if Permit 95010001 were to be revised as requested by this application are detailed in the Listing of Denial Points, Attachment 1 of this permit denial. For each Denial Point, Attachment 1 also describes the information that this application did not provide and the specific reasons why the Act and might be violated if a revised permit were issued as requested, with accompanying explanation and discussion.

This permit denial has two appendices. Appendix A lists the various sections of the Act that are cited in Attachment 1 as the statutory basis for this denial letter, with description and, in some cases, general explanation why the section might be violated if Permit 95010001 were to be revised as requested by this application. Appendix B lists the various provisions in

[1] In this application, US Steel requests that the revision of Permit 95010001 be processed with "Integrated Processing," as is provided for by Sections 39.5(13)(a) and (c)(v) of the Act. Integrated Processing would allow changes to the Clean Air Act Permit Program (CAAPP) permit for the Granite City Works, as would be set forth in the revised permit, to subsequently be made by means of an Administrative Amendment of the CAAPP permit.

Subtitle B of Title 35 of the Illinois Administrative Code that are cited in Attachment 1 as the regulatory basis for this denial letter, with description and, in some cases, general explanation why the provision might be violated if Permit 95010001 were to be revised as requested by this application.

Before taking action to deny the above-referenced application, the Illinois EPA held two public comment periods on drafts of proposed denial letters, an Initial Draft Denial Letter and a Revised Draft Denial Letter, in accordance with 35 IAC Part 252, as provided for by 35 IAC 252.105(b).

If you have any questions on the denial of this denial, please call Jason Schnepp or Minesh Patel at 217/785-1705.

William D. Marr JMS 5/8/2024

William D. Marr
Manager, Permit Section
Bureau of Air

WDM:mvp:tan

U.S. Steel Granite City (I. D. No. 119813AAI)
Permit/Application No. 95010001
Application Received on October 7, 2022 for Revisions to the Permit

ATTACHMENT 1: LISTING OF DENIAL POINTS

1. THE REVISED NETTING ANALYSIS FOR THE PROJECT FOR NITROGEN OXIDES (NOx) DOES NOT FULFILL RELEVANT REQUIREMENTS OF NEW SOURCE REVIEW (NSR) FOR SUCH ANALYSES

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 9.1(d) and 39(a)*. (Note: The significance of asterisks that accompany certain Sections of the Act is explained in Appendix A.)

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 Illinois Administrative Code (IAC) 201.160(a), 203.201, 203.203(b), 203.208**, 203.301, 203.302, 204.550**, 204.810, 204.1100(c), 204.1110 and 204.1130. (Note: The significance of asterisks that accompany certain provisions of the Illinois Administrative Code is explained in Appendix B.)

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* The 2022 application does not show that the Production Increase Project (Project) would still not be a major modification for emissions of nitrogen oxides (NOx) for purposes of New Source Review (NSR) with the increases in NOx emissions that are requested to address errors in the initial permitting of the Project. In particular, the application requests an increase in the permitted NOX emissions of the basic oxygen furnaces (BOFs) of more than 200 tons/year. The netting analysis for NOx in the application, which addresses the Project with the requested increases in NOx emissions, is flawed so cannot be relied upon to show that the increases in permitted NOx emissions would not result in the Project being a major modification. The revised NSR applicability analysis is flawed as, contrary to applicable rules, it relies upon decreases in NOx emissions from actions that were neither contemporaneous with the Project nor creditable as they were not required by Permit 95010001. These decreases resulted from the later shutdowns of ten older boilers at the facility and the much later shutdown of the two by-product recovery coke oven batteries at the facility, as coke oven gas (COG) ceased to be available for use in Project-affected fuel burning units. The incongruous conclusion of the revised NSR applicability analysis is that the Project was accompanied by an overall decrease in the NOx emissions of Project-affected fuel burning units rather than an increase in NOx emissions as would be expected from an increase in production of iron by the blast furnaces.

As the Project would become a major modification for NOx with the requested increase in permitted NOx emissions, the Project would become subject to Nonattainment New Source Review (NaNSR) (35 IAC Part 203, Major Stationary Sources Construction and Modification (MSSCAM)) for NOx. NOx is regulated as a precursor to the formation of ozone in the atmosphere and, in 1996, the Granite City Works was in an area designated nonattainment for ozone air quality. (This area is still nonattainment for ozone.) As the Project would become a major modification for NOx with the requested increase in permitted NOx emissions, the Project would also become subject to Prevention of Significant Deterioration or PSD (35 IAC Part 204) for NOx. NOx is also regulated as a precursor to the formation of nitrogen dioxide (NO_2) in the atmosphere and, in 1996, the facility was in an area designated attainment or unclassified for NO_2 air quality. (This area is still attainment or unclassified for NO_2.) However, as related to the NOx emissions of the Project as now requested by the 2022 application, the application does not address the substantive requirements of MSSCAM or PSD for a major modification, much less show that these requirements are fulfilled. The application does not show that for the Project-affected emissions units for which the Lowest Achievable Emission Rate (LAER) and Best Available Control Technology (BACT) should have originally been required for NOx, LAER and BACT are present as required, respectively. by MSSCAM and PSD. For NOx, the application also does not address the requirement of MSSCAM that a major project be accompanied by emission offsets to counterbalance the increase in emissions of the nonattainment pollutant from the project. The application also does not include an analysis for the impact of the project on NO_2 air quality, as required by PSD.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* Section 9.1(d) of the Act and the substantive requirements of 35 IAC Part 203 and Part 204 for a major modification (the requirements for LAER, BACT and emission offsets for NOx and an air quality impact analysis for NO_2) would be violated if a revision to Permit 95010001 were issued that increased the permitted NOx emissions of the Project as requested by the 2022 application. This is because the revised NSR applicability analysis for the Project for NOx improperly relies upon decreases in NOx emissions that are neither contemporaneous nor creditable to claim that the Project would continue to not be a major modification for NOx with the increases in permitted NOx emissions that are being requested.

Discussion

Overview

For NOx emissions, the 2022 application for revisions to the Construction Permit 95010001 for the Production Increase Project (Project)[1] does not address or show fulfillment of the substantive requirements of the Prevention of Significant Deterioration (PSD) and Nonattainment New

[1] Permit 95010001 was initially issued in January 1996 for a "Production Increase" at the Granites City Works. It provides for increases in the allowable production rates of iron from 2,372,500 to 3,165,000 tons per year and of steel from 2,774,000 to 3,580,000 tons per year. This permit was preceded by Construction Permit 9209014, a permit for increases in production issued in September 1992. That permit provided for increases in the permitted production rate on a monthly average basis for iron from 5,600 to 6,500 tons per day (equivalent to production of 2,372,500 tons per year) and for steel from 6,900 to 7,600 tons per day (equivalent to production of 2,774,000 tons per year).

Source Review (NaNSR) programs related to impacts on air quality, i.e., air quality analysis for impacts on NO_2 air quality per 35 IAC 204.1130 and emission offsets for NOx per 35 IAC 203.302. For the blast furnaces and blast furnace stoves, i.e., the emission units that underwent physical modifications with the Project, the 2022 application also does not show fulfillment of the BACT and LAER requirements, respectively of PSD (35 IAC 204.1100) and NaNSR (35 IAC 203.301) for NOx emissions.[2,3] This showing is necessary because Permit 95010001 is currently based on the net increase in NOx emissions from the Project not being significant so that the Project is not a major modification for NOx.[4] The 2022 application requests that the Project be permitted for additional NOx emissions but does not show that the Project would still not be a major modification for NOx if the permit were revised as requested. As the Project would become a major modification for NOx with the requested revisions to Permit 95010001, the 2022 application must show for NOx that the relevant substantive requirements of PSD and NaNSR are fulfilled for the Project. It would not be appropriate for a revised permit to be issued with increases in permitted NOx emissions as requested by the current application if this application does not also show that the applicable substantive requirements of PSD and NaNSR would be met for the Project for NOx.

In this regard, the 2022 application requests that the permitted NOx emissions of the casthouse on the blast furnaces and the basic oxygen furnaces be increased by 19.4 and 220.2 tons/year, respectively, for an overall increase of 239.6 tons/year. (2022 application, Appendix B - Emission Calculations, USS Granite City – 1996 Production Increase Project: Revised NOx PSD Net Emissions Increase Analysis.)[5] The revised netting analysis for the Project for NOx in the 2022 application suggests that this increase would be accompanied by decreases in the NOx emissions of certain other units. With these accompanying decreases, the net increase in NOx emissions from the Project with the requested revised permit would continue to not be significant.[6] The requested increase in the permitted NOx emissions of the blast furnaces and

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[2] The basic oxygen furnaces, at which the largest increase in permitted NOx emissions is requested, were not physically modified and would not become subject to requirements for BACT or LAER for NOx even if the Project were a major modification.

[3] The 2022 application also does not include an analysis of alternatives. This analysis would have been required to be included in the original application for the Project if it had been recognized in 1996 that the Project was a major modification for NOx. It is beyond the scope of the revisions of Permit 95010001 that are now requested to address the fact that such an analysis was not originally part of the construction permit application for the Project.

[4] Under the PSD program, the significant emission rate for NOx is 40 tons/year; under NaNSR, since Granite City is not in an area that is classified as serious, severe or extreme nonattainment for ozone air quality, the significant emissions rate for NOx is also 40 tons/year. An increase in NOx emissions or, if the source elects to evaluate the net increase in emissions, a net increase in NOx emissions from a project that is equal to or greater than this rate is considered significant. (35 IAC 204.660 and 35 IAC 203.209.)

[5] In the 2022 application, the increases in the NOx emissions of the blast and basic oxygen furnaces reflect proposed corrections to baseline emissions, as well as increases in the permitted emissions with the project. For the blast furnaces, the application indicates that baseline NOx emissions should be lowered from 15.6 to 4.6 tons/year. For the basic oxygen furnaces, baseline NOx emissions should be raised from 46.94 to 179.8 tons/year. (2022 application, Table 6-5, "Pre-project Actual Emissions and Summary of Proposed Changes to Pre-project NOx Emission Factors for Affected Emissions Units.")

[6] When a netting analysis that showed a project would not be a major modification is found to have understated emissions of certain new or modified emission units, the next step is usually to examine

basic oxygen furnaces, 239.6 ton/year combined, would not result in the Project becoming a major modification for NOx. For this purpose, the 2022 application indicates that the overall decrease in NOx emissions from Project-affected fuel burning units would now be 250.3 tons/year, comparing their revised baseline NOx emissions of 956.3 tons/year and future NOx emissions of 706 tons/year. (2022 application, Appendix B - Emission Calculations, USS Granite City – 1996 Production Increase Project: Revised NOx PSD Net Emissions Increase Analysis.) However, the 2022 application does not identify the specific decreases in NOx emissions that occurred at different groups of Project-affected fuel burning units. Instead, the 2022 application simply indicates that the future NOx emissions of the Project-affected fuel burning units, overall, would not exceed 706.0 tons/year.

This netting analysis for NOx in the 2022 application cannot be relied upon for issuance of a revised permit for the Project as requested by US Steel. The application does not include relevant information showing that additional decreases in NOx emissions that would now be proposed to be relied upon would be contemporaneous and creditable for permitting of the Project. For emission decreases to be relied on for the purpose of a netting analysis, 35 IAC 204.550 and 203.208 provide that the decreases must be contemporaneous and creditable. This necessitates information for how the additional decreases in NOx emissions addressed in the revised netting analysis for NOx were created and how the amounts of the decrease were quantified. Most significantly, the 2022 application does not show that certain decreases in NOx emissions that it would rely upon should be considered contemporaneous with the Project. A revised permit cannot be issued for the Project that relies upon "post-project" emissions decreases, which occurred after the Project, to show that the Project with the requested increases in NOx emissions of the furnaces, should still not be considered a major modification. This is critical because changes that are unrelated to the Project have occurred at certain fuel burning units after the initial issuance of Permit 95010001. The 2022 application proposes to rely upon the decreases in NOx emissions due to these changes, which decreases were not and could not have been relied upon by the original permit for the Project. These decreases in emissions would be relied upon by the revised netting analysis as the analysis does not account for and exclude the emissions decreases from these changes from the analysis. (In addition, as will be addressed separately below, the 2022 application does not include appropriate support for certain units for the quantification of NOx emissions in the revised netting analysis.)

Application Relies on Emission Decreases That Are Not Contemporaneous

As related to the requirement of the NSR rules that decreases in emissions relied upon for netting be contemporaneous, the 2022 application indicates baseline NOx emissions of 131.8 and 123.2 tons/year from the use of blast furnace gas (BFG) and natural gas, respectively, in Boilers 1

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whether the project should still not be considered a major modification. The revised netting analysis for this purpose may consider adjustments such as reductions in the permitted emissions of other new or modified units involved in the project. It may also consider additional emission decreases that were not relied upon by the original netting analysis but could have been as they are contemporaneous and creditable. As this reexamination of a project shows that it still would not be considered a major modification with appropriate adjustments to the netting analysis, an appropriately revised construction permit may be issued that is based on the project continuing to not be a major modification.

through 12. (2022 application, Appendix B - Emission Calculations, USS Granite City – 1996 Production Increase Project: Revised NOx PSD Net Emissions Increase Analysis.) Boilers 1 through 12 are the twelve boilers at the source in 1996 that were addressed by Permit 95010001. Ten of these boilers, Boilers 1 through 10, were shut down in 2009.[7] The 2022 application does not show that NOx emissions of these ten boilers, as existed in the period prior to 2009, were considered in the "future" NOx emissions with the Project of at most 706 tons/year from the Project-affected fuel burning units. In addition, with regard to Boilers 11 and 12, the two remaining old boilers at the source that continue in operation, flue gas recirculation systems have been installed on these boilers pursuant to Construction Permit 10080022, issued in January 2011. These systems were installed to control NOx emissions to facilitate compliance with 35 IAC 217.164. The 2022 application does not show that the revised netting analysis for NOx does not rely on the lower NOx emissions from Boilers 11 and 12 that are now being achieved with the new control systems, rather than their NOx emissions as previously existed with the Project in the period before these control systems were installed.

The application also indicates baseline NOx emissions of 461 tons/year from use of coke oven gas (COG) in the blast furnace stoves and Boilers 11 and 12.[8] In 2015, US Steel shut down the two by-product recovery coke oven batteries at the Granite City Works. COG ceased to be available for use in the stoves or Boilers 11 and 12. However, COG was available for use in the stoves and these boilers in 1996. As related to the Project, the 2022 application does not show that the revised netting analysis for NOx would not rely upon decreases in the NOx emissions of the stoves and boilers due to the elimination of COG, which did not occur until 2015.[9]

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[7] The shutdown of Boilers 1 through 10 was required by Condition 2.6(a) of Construction Permit 06070023, which was originally issued in January 2008. This permit addresses construction of a cogeneration boiler at the facility that would be designed to produce both high-pressure steam to generate electricity and lower pressure process steam. This boiler has been constructed and is in operation. The permitting of this new boiler relied upon contemporaneous decreases in NOx emissions from several actions, most notably, a decrease of 558.9 tons/year from addition of low NOx burners to four reheat furnaces. The permitting of the new cogeneration boiler also relied on a 33.41 tons/year decrease in NOx emissions from the shutdown of Boilers 1 through 10 as this eliminated use of natural gas by these boilers. The related application for emissions decreases that were contemporaneous with the new boiler did not rely on any decreases in the NOx emissions of these boilers from use of COG and BFG. This is because "…the boilers shutdowns will not result in any change in the amount of BFG and COG combusted at the Facility." (Application 06070022, Section 3.3.1. "Boilers 1 through 10 Shutdown Emission Calculations," p. 3-7.) The reliance of Permit 06070023 on emission decreases from the shutdown of these boilers is a further impediment to reliance on these decreases in a revised netting analysis for the Project.

[8] For Project-affected boilers, the 2022 application indicates that baseline NOx emissions from usage of COG are addressed only for Boilers 11 and 12. (2022 application, Table 6-5, "Pre-project Actual Emissions and Summary of Proposed Changes to Pre-project NOx Emission Factors for Affected Emissions Units.") This is likely erroneous since the application for Permit 06070022 indicates that Boilers 1 through 10 also had the ability to use COG.

[9] The 2022 application does reflect increased use of natural gas by Project-affected fuel burning units. The application explains that with the shutdown of the by-product coke oven batteries, COG is no longer available and more natural gas may need to be used (e.g., 2022 application, Section 6.3, Post-Project NOx Emissions Limitations"). Permit 95010001 currently limits annual use of natural gas by the Project-affected fuel burning units to 1,346 million cubic feet. The revised netting analyses in the 2022

In summary, for purposes of applicability of NSR, the NOx emissions allowed from the Project in 1996 that would be permitted with the requested revisions to the permit could be substantially higher than indicated in the 2022 application.[10] This application does not show that this would not be the case such that the Project would not become a major modification for NOx with the requested increases in the permitted emissions of the blast furnaces and the basic oxygen furnaces. The timing of actions that have resulted in decreases in NOx emissions of fuel burning units after 1996 is critical when considering applicability of NSR to the Project with the requested revisions to Permit 95010001. As the decreases in NOx emissions from certain actions cannot be considered or would be smaller, the net increase in NOx emissions of the Project would be greater. In this regard, it must be assumed that the "future NOx emissions" indicated in the 2022 application reflect maximum actual NOx emissions beginning in 2023, with the requested revisions to Permit 95010001. The application does not suggest that these future NOx emissions are the emissions that should have been allowed by the permit back in 1996 when the permit was issued and the Project commenced.[11]

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application are based on a post-project annual natural gas usage of up to 1,980 million cubic feet (e.g., Tables 5-7, 6-6 and 7-3).

The decreases in NOx emissions that resulted from the shutdown of the coke oven batteries and elimination of COG in 2015 are contemporaneous with any increases in NOx emissions due to the accompanying use of more natural gas. However, these emissions decreases are not contemporaneous relative to the Project, which was undertaken in 1996. In addition, an application for revisions to Permit 95010001 is not an appropriate venue to address the use of more natural gas due to the shutdown of the coke oven batteries. The Project involved increases in production of iron and steel. The Project-affected fuel burning units do not include four slab furnaces that also used COG and now must use more natural gas. Lastly, the consequences of the shutdown of the coke oven batteries on the facility's NOx emissions, including the consequences for the slab reheat furnaces, are the subject of a separate construction permit application, Application 15030001, received March 5, 2015, which application is still pending.

[10] It should be noted that for purposes of applicability of NSR, for the same reasons that the 2022 application understates the net increase in emissions of NOx from Project-affected fuel burning units, the application also understates the increases or net increases in emissions of the Project for purposes of NSR for particulate matter (PM), particulate matter$_{10}$ (PM_{10}) and volatile organic material (VOM), i.e., pollutants other than NOx for which the requested revised permit for the Project would rely upon the increase or net increase in emissions not being significant.

[11] With the requested revisions of Permit 95010001, it is unclear how the "future NOx emissions" of fuel burning units indicated in the 2022 application are NOx emissions that could have been allowed by this permit in 1996. The future NOx emissions of affected fuel burning units indicated in the 2022 application are less than the baseline NOx emissions, i.e., proposed future emissions of 706 tons/year compared to the claimed baseline of 956 tons/year. However, the Project did not include any elements that would lower the NOx emissions of fuel burning units. Rather, the production of more iron and steel would be accompanied by increased utilization of the blast furnace stoves and boilers as more blast air and steam are generally needed for blast furnaces to produce more iron. Accordingly, in 1996, the NOx emissions of fuel burning units allowed by Permit 95010001 must necessarily be more than the baseline emissions, as this permit addresses a project that involves use of more BFG and natural gas by Project-affected fuel burning units. (Use of COG was not expected to be affected by the Project because production of COG was constrained by the design and operation of the existing coke oven batteries, which were not being modified as part of the Project.)

Indeed, the future NOx emissions of the fuel burning units for purposes of any revised netting analysis should be expected to be substantially greater than their baseline emissions. If one assumes that the increases in emissions would be proportional to the permitted increase in iron production, future NOx emissions of the fuel burning units would be expected to increase by roughly 40 percent. If the baseline

2. THE DETERMINATION OF BASELINE NOx EMISSIONS IN THE REVISED NETTING ANALYSIS CANNOT BE INDEPENDENTLY CONFIRMED

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 9.1(d) and 39(a)*.

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.152**, 201.152*** and 201.160(a).

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* The 2022 application does not include data and information supporting the determinations of baseline NOx emissions for certain emissions units in the revised NSR applicability analysis for NOx. In this regard, it is noteworthy that the revised NSR applicability analysis does more than seek increases in permitted NOx emissions of the blast furnace casthouse and BOFs to correct errors in the original application for the Production Increase Project. As explained in the discussion below, the revised NSR applicability analysis now also addresses NOx emissions from burning coke oven gas (COG) in Project-affected units, which the Illinois EPA did not require be addressed in 1996. For the continuous casting operations, the analysis also takes a different approach to use of natural gas and associated NOx emissions. Lastly, the analysis does not reflect a reevaluation of the NOx emission factor used for ladle preheaters. For these units, an emissions factor for use of natural gas in boilers, which likely is not appropriate for the simpler burner systems in preheaters, continues to be used.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* As there are deficiencies in the data and information that is provided in the 2022 application for the baseline NOx emissions of fuel burning units, the revised NSR applicability analysis cannot be relied upon. Separate from Denial Point 1 concerning reliance on NOx emission decreases that are not contemporaneous and creditable, deficiencies in the emission data presented in this analysis are also a reason why this analysis cannot serve as proof that the Production Increase Project would not become a major modification for NOx under NSR with the increases in permitted NOx emissions that are now being requested. Likely or possible deficiencies in the emission data in the revised NSR applicability analysis for NOx in the application need to be resolved or corrected before any revised version of Permit 95010001 is issued that would be based upon a revised NSR applicability analysis for the Project.

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emissions of these units should have been 956 tons/year, as indicated in the 2022 application, this suggests future emissions of these units with the Project should be about 1,340 tons/year (956 tons/year x 1.4 = 1,338 ~ 1,340 tons/year). Alternatively, absent any decreases in NOx emissions from the twelve boilers and the discontinuation of COG, and disregarding increased use of natural gas in place of COG, the NOx emissions from the Project-affected fuel burning units for purposes of NSR applicability, as of 1996, would be on the order of 1,420 tons/year (Proposed future emissions of 706 tons/year + 131.8 tons/year attributable to use of BFG by the boilers + 123.2 tons/year attributable to use of natural gas by the boilers + 461 tons/year from the discontinuation of the use of COG in the stoves and Boilers 11 and 12 ~ 1,420 tons/year). If so, the calculated change in NOx emissions from Project-affected fuel burning units for purposes of NSR applicability would be a net increase on the order of 460 tons/year (1,420 – 956 = 464), rather than a net decrease of about 250 tons/year.

Discussion

The new determination of baseline NOx emissions of Project-affected fuel burning units provided in the revised netting analysis cannot be independently confirmed. In this regard, the 2022 application does not show that all Project-affected fuel burning units have been addressed. For units that are addressed, the application does not show that appropriate emission factors and operating data have been used to estimate emissions. As specific concerns exist with the determination of baseline NOx emissions for certain emission units, as discussed below, concerns exist with the determination of the overall baseline NOx emissions for the Project.

Baseline Usage of Coke Oven Gas (COG)

As already discussed, the use of coke oven gas (COG) in Project-affected fuel burning units is introduced in the 2022 application for revisions to Permit 95010001.[12] This application does not include supporting documentation or explanation for the baseline usage of COG utilized in the revised netting analysis. The annual usage of COG in the blast furnace stoves (374 million cubic feet/year) and in boilers (2,211 million cubic feet/year) is simply presented in the revised netting analysis for NOx. (2022 application, Appendix B - Emission Calculations, USS Granite City - 1996 Production Increase Project: Revised NOx PSD Net Emissions Increase Analysis). The indicated usages of COG are not accompanied by any documentation or explanation.

Emission Factor for Use of COG in Boilers 11 and 12:

For COG, the 2022 application utilizes a NOx emission factor for Boilers 11 and 12[13] of 404 pounds/million cubic feet of COG.[14] The application states that this factor is based on emission testing conducted on the stack of A Coke Battery (2022 application, Table 6-4. "NOx Emission Factors for Fuel Burning"). The application does not show that it is appropriate to utilize an

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[12] It should be noted that the introduction in the revised netting analysis for the Project of NOx emissions from use of COG in Project-affected fuel burning units is not acknowledged in the section of the 2022 application in which historical production and operating rates are discussed. Section 6.2.1 of the application, "Historical Throughput Rates," states that "The pre-project actual emissions were calculated using the same production and operating rates as the 1995 Application shown in Table 6-3 [Pre-Project Production and Operating Rates for NOx]." This statement is clearly not accurate as the usage of and NOx emissions from COG were not quantified in the 1995 application. Moreover, Table 6-3 does not include information for the historical or baseline usage of COG.

[13] In the 2022 application, there is an inconsistency in the information for the baseline NOx emissions of boilers. In Table 6-5, "Pre-project Actual Emissions and Summary of Changes to Pre-Project NOx Emissions Factors for Affected Emissions Units," baseline NOx emissions of Boilers 1 through 10 do not appear to be addressed since this table shows that baseline emissions are provided for B11 and B12 (Boilers 11 and 12). In Appendix B, USS Granite City – 1996 Production Increase Project: Revised NOx PSD Net Emissions Increase Analysis, baseline NOx emissions appear to be provided for all boilers, as information is shown as being for "boilers."

[14] For the stoves, the revised netting analysis utilizes a lower NOx emission factor of 80 pounds/million cubic feet of COG. The application states that this factor is based on an emission test for which the date is unknown (2022 application, Table 6-4, p. 6-3). As this factor is identical to the NOx emission factor in USEPA's WebFIRE database for burning COG in industrial boilers, this factor can be considered appropriate. (USEPA, Clearinghouse for Inventories & Emission Factors, Emission Factors & AP42, WebFIRE, with search conducted using the term "coke oven gas" in the field under Select options under Source Classification Code. .

emission factor developed from the results of emission testing on the combustion stack of a coke oven battery to calculate emissions of a boiler. There are significant differences between combustion of COG as occurs at coke ovens and combustion of fuel in a boiler. At a fundamental level, a combustion stack emits the products of combustion from the heating of coke ovens to the high temperature needed to convert coal into coke. Regenerative heat exchangers are utilized to efficiently achieve this temperature. Boilers 11 and 12 emit the products of combustion from burning fuel to achieve the temperature needed convert water into process steam.[15]

Emission Factor for Use of Natural Gas in Ladle Preheaters:
For use of natural gas, the 2022 application utilizes a single emission factor for NOx emissions from all Project-affected fuel burning units. This factor, 306 pounds/million cubic feet of natural gas reflects the results of emission testing conducted on Boiler 12 when using natural gas. The application does not show that it is appropriate to utilize this emissions factor for ladle preheaters, which are different types of emissions units than boilers. Moreover, the revised netting analysis for NOx in the application erroneously indicates that the estimated baseline NOx emissions of ladle preheaters were "Revised to use current AP-42 emission factor." (2022 application, Appendix B, Emission Calculations, USS Granite City – 1996 Production Increase Project: Revised NOx PSD Net Emissions Increase Analysis.) The current AP-42 NOx emission factor for small boilers (<100 million Btu/hour heat input) without low NOx burners or flue gas recirculation is only 100 pounds/million cubic feet of natural gas. (USEPA, *Compilation of Air Pollutant Emission Factors*, AP-42, Table 1.4-1.)

Emissions from Use of Natural Gas on the Continuous Casting Lines:
Unlike the original application, the 2022 application does not directly address NOx emissions associated with use of natural gas in continuous casting operations.[16] In this regard, this application states:

> The pre-project actual emissions for the Continuous Caster Mold – Caster #1 and Caster 2 process, as presented by National Steel Corporation in the 1995 Application listed NOx emissions from this operation. USS Granite City evaluated this analysis and determined that there is no NOx formation from this operation. Any NOx emissions from this operation are due to combustion of natural gas and are already accounted for under the gaseous fuel burning activities listed above [Section 6.2.2.1, Fuel Burning Emissions Units

[15] Application 15030001, the pending application for a construction permit for use of more natural gas with the shutdown of the by-product coke oven batteries, utilizes an emission factor for use of COG of 80 pounds/million cubic feet for baseline NOx emissions of Boiler 12. This is the NOx emission factor in FIRE for use of COG in boilers. This factor is much lower than 404 pounds/million cubic feet, the factor for COG used in the 2022 application for the baseline emissions of Boilers 11 and 12.
It should be noted that Application 15030001 does not include a NOx emission factor for Boiler 11 for COG. This is likely because Boiler 11 did not use COG in the baseline period used for Boilers 11 and 12 (January 2013 through December 2014) for the net increase analysis in this application.

[16] As reflected in Permit 95010001, the original permitting of the Project accounted for NOx emissions of 89.5 tons/year from Caster Molds – Casting but did not account for any NOx emissions from Slab Cut-Off and Slab Ripping, for which only particulate emissions were addressed.

> Emissions (Revised)]. Therefore, in the revised analysis, NOx emissions are not included from this operation.
>
> 2022 application, Section 6.2.2.7, "Continuous Caster Mold Process Emissions (Revised)."

This is problematic for several reasons. First, the 2022 application does not address the NOx emissions of the natural gas-oxygen torches used in the slab cutting and slab ripping processes, which are part of the continuous casting lines.[17] Second, as the application indicates that NOx emissions are present from the mold processes on the casting lines, the application does not show that the same NOx emission factor is appropriate for this use of natural gas as utilized for ladle preheaters or, alternatively, separately account for the NOx emissions from use of natural gas in the casting process. Lastly, the 2022 application does not identify either the caster processes or the torches as units whose use of natural gas and resulting NOx emissions would be addressed with the emissions of other Project-affected fuel burning units (e.g., 2022 application, Table 6-5, "Pre-project Actual Emissions and Summary of Proposed Changes to Pre-project NOx Emission Factors for Affected Emissions Units").

[17] Alternatively, if NOx is not formed by the torches given they are supplied with oxygen, the application does not confirm that usage of natural gas by the torches was not considered when the baseline NOx emissions from use of natural gas in Project-affected fuel burning units were determined.

3. THE APPLICATION LACKS INFORMATION FOR THE ACTUAL NOx EMISSIONS OF PROJECT-AFFECTED FUEL BURNING UNITS (LACK OF INFORMATION RELEVANT TO NETTING)

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 9.1(d), 39(a)*, 39(a)** and 39(a)***.

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.152***, 201.160(a), 203.123, 203.128, 203.208*, 204.400, 204.550* and 204.560.

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* The revised Netting Analysis for NOx in the 2022 application does not show that the value for the maximum future NOx emissions from certain fuel burning units, 706 tons/year, in aggregate, is appropriate for purposes of NSR. That is, the 2022 application does not show that 706 tons/year represents the post-project NOx emissions of these units as could have been addressed when Permit 95010001 was originally issued in 1996 if emissions from burning of COG in these units when operating at the levels of iron and steel production that were permitted had been considered. The 2022 application also does not show that the actual NOx emissions of the subject units in the period from 1996 to the present have not exceeded 706 tons/year. In other words, the application does not show that a value for future NOx emissions of the subject units of 706 tons/year does not really represent "future" emissions beginning at the present time. Otherwise, the value for future NOx emissions in the application improperly takes credit for reductions in the NOx emissions of the Production Increase Project (Project) that were not originally part of the Project. When the Project was initially issued in 1996, the NOx emissions from use of blast furnace gas (BFG) and natural gas in 12 boilers at the Granite City Works was addressed. When revaluating applicability of NSR for the Project for NOx with the increases in permitted emissions requested by the application, it is not appropriate to only address the potential NOx emissions of the two boilers that now remain. Although the other ten boilers are now shutdown, they were operating and emitted NOx in 1996. Similarly, in 1996, coke oven gas (COG) was used as a fuel and burned at the facility. With the shutdown of the two by-product recovery coke oven batteries at the facility, COG is no longer being produced. The NOx emissions of the fuel-burning units that formerly burned COG are now lower than they were in 1996 since natural gas is used to make up for the heat input to the units previously provided by COG. (Compared in terms of pounds of NOx per million Btu of fuel heat input, the NOx emissions from use of natural gas as a fuel are generally lower than those from use of COG.) However, when revaluating applicability of NSR for the Project for NOx with the increases in permitted emissions now requested, it is not appropriate to evaluate the NOx emissions of the units that formerly used COG as they now exist and to ignore the fact that in 1996 these units did use COG and their potential NOx emissions were higher. Again, as touched on in Denial Point 1,

the difficulty is not that the future NOx emissions of the subject units may be lower compared to what may have been possible for their permitted NOx emissions in 1996. The difficulty is that the revised NSR applicability analysis for NOx in the 2022 application attempts to rely on this "post-project" reduction in the NOx emissions of these units to make up for the increases in permitted NOx emissions of the blast furnace casthouse and BOFs that are requested.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* It would be improper for the Illinois EPA to issue a revision to Permit 95010001 that is based on the NSR applicability analysis for NOx in the 2022 application that is not consistent with the provisions of the NSR rules governing such analyses. This would be the case if the value/proposed limitation for maximum future NOx emissions of the subject units in the application was relied upon for issuance of a revision to Permit 95010001 and this value/proposed limitation does not reflect the potential emissions from the subject units with the Project, as required by 35 IAC 203.208 and 204.550 In other words, it would be improper for a revised permit to be issued that reflects current circumstances for the subject units if this reflects NOx emissions that are lower than could have properly been allowed in 1996.

Discussion

The 2022 application does not include a demonstration that the actual NOx emissions of Project-affected fuel burning units would not have exceeded the "future amount" or post-project emissions indicated in the revised netting analysis for the Project for NOx since Construction Permit 95010001 was issued if the production of iron and steel by the source was at the levels allowed by this permit.

3A. THE APPLICATION LACKS INFORMATION FOR THE ACTUAL NOx EMISSIONS OF PROJECT-AFFECTED FUEL BURNING UNITS (LACK OF SUPPORTING INFORMATION)

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 9.1(d), 39(a)* and 39(a)**.

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.152*, *201.152*****,35 IAC 201.160(a), 203.123, 203.128, 204.400 and 204.560.

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* The amount in the 2022 application for the maximum future NOx emissions from certain fuel burning units, 706 tons/year, in aggregate, is not accompanied by supporting information but is simply presented. The application does not explicitly list the various units whose NOx emissions are being addressed and describe the nature of the various units relative to the emissions of NOx from burning fuel in the units. Data is not provided for the maximum annual amounts of fuels burned in these units. Data is also not provided for the emission factors used to calculate annual emissions, the sources or basis of those factors, and why those factors should be considered representative of the NOx emissions of the various types of units that are being addressed.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* Absent information as described above, the 2022 application does not include information that is necessary to allow the Illinois EPA to rely upon the future maximum NOx emissions of the subject units, presumably the fuel burning units affected by the Production Increase Project, being no more than the stated amount, or issue a revised permit that limits NOx emissions to the stated amount. The missing information is needed so that the Illinois EPA and other interested parties can independently review the methods, data and calculations by which the representation in the 2022 application for maximum future NOx emissions of the subject units was determined. This information is also necessary if the Illinois EPA is to place appropriate conditions in a revised permit requiring US Steel to track the NOx emissions of the subject units, so as to verify that that the future NOx emissions do not exceed the amount stated in the application or other appropriate amount. In this regard, it is significant that the emissions of many of the Project-affected fuel burning units at the facility, i.e., the blast furnace stoves, the BFG gas flares, and various process heaters, cannot be directly determined because these units are not amenable to emission testing.
Note that this denial point addresses the lack of supporting information for the maximum future NOx emissions of the subject units that is stated in the 2022 application. Denial Point 3, above,

addresses the time period that should be reflected in the determination of maximum future emissions for purposes of evaluating applicability of NSR.

(A further discussion is not provided for this denial point, as it was not present in the Initial Draft Denial Letter. Following the close of the public comment period on the Initial Draft Denial Letter, the Illinois EPA realized that the 2022 application is also deficient as the value it provides for future NOx emissions of Project-affected fuel burning units is not accompanied by supporting information.)

4. FOR THE BASIC OXYGEN FURNACES, THE 2022 APPLICATION DOES NOT ADDRESS THE POTENTIAL FOR UNCAPTURED EMISSIONS OF NOx, VOLATILE ORGANIC MATERIAL (VOM) AND CARBON MONOXIDE (CO) THROUGH THE ROOF MONITOR FOR THESE FURNACES

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 9.1(d), 39(a)* 39(a)**;

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.152*** and 201.160(a).

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* The 2022 application does not include information for the uncaptured emissions of NOx, volatile organic material (VOM) and carbon monoxide (CO) for the BOFs that occur through the roof monitor on the BOF shop, i.e., the building in which the BOFs are located. The existences of emissions of NOx, VOM and CO from the BOFs is well-established from testing of the stacks of the control systems for the particulate emissions of the BOFs. This testing shows emissions now occur through both the older ESP control system for the BOFs and the baghouse that was installed within the last ten years to improve control of particulate emissions from charging and tapping of the BOFs. These control systems may capture most of the emissions of the BOFs, achieving overall capture efficiencies that engineering design suggests may approach 100 percent. However, the 2022 application does not contain technical or engineering information showing that all emissions of the BOFs are now being captured and no emissions occur through the roof monitor or other openings in the BOF shop. Complete capture of the emissions of the BOF is also not required by applicable regulations. For example, under the National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing Facilities ("Iron and Steel NESHAP" or "NESHAP"), 40 CFR 63 Subpart FFFFF, Table 1, the opacity of emissions from the roof monitor and other openings in the BOF shop at the facility is only limited to no more than 20 percent, on a 3-minute average.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* Absent information addressing uncaptured emissions of NOx, VOM and CO from the BOFs, the 2022 application would not provide complete information about the emissions of the BOFs. For NOx, absent information for these uncaptured emissions, if US Steel were to submit a corrected, revised NSR applicability analysis to show that the Project would not be a major modification for NOx with increases in permitted emissions as requested, that analysis would not be complete. For VOM, for which the 2022 application also requests an increase in permitted emissions, the revised NSR applicability analysis to support such a revision is not complete. For CO, for which revisions to the PSD approval provided by Permit 95010001 are requested for emission units other than the BOFs, the updated air quality impact analysis for

CO required under the PSD rules would not reflect a complete emissions inventory for the existing sources of CO emissions at the Granite City Works.

Discussion

For the basic oxygen furnaces, consistent with the original permitting of the Project, the 2022 application only quantifies stack emissions of NOx, VOM and CO. For these furnaces, the application does not address uncaptured emissions of these pollutants. (For these furnaces, the 2022 application does address uncaptured emissions of particulate and lead[18] for which Permit 95010001 limits emissions of these pollutants from the "BOF [Basic Oxygen Furnace] Roof Monitor," (Permit 95010001, Condition 18 and Table 2, Item 2)).

The revised netting analyses for NOx and VOM in the 2022 application assume that all emissions of these pollutants from the basic oxygen furnaces are now captured. That is, with the installation of the new baghouse control system on the furnaces to improve control of particulate emissions from the charging and tapping processes, all NOx and VOM emissions of these furnaces that originally were not captured and were emitted through the roof monitor now are captured and are emitted through the stack on the baghouse system. For example, as related to emissions of NOx, the application explains,[19, 20]

> At the time of the 1995 Application, the BOF Shop did not include a baghouse to capture secondary emissions. Secondary emissions were released to the atmosphere through the BOF Shop roof monitor. No information was available at the time about the NOx emissions from the BOF Shop roof monitor. Since then, the BOF Shop includes a capture system for secondary emissions that are routed to a baghouse. NOx emissions testing for the BOF Shop

[18] The uncaptured lead emissions of the basic oxygen furnaces are summarily addressed by the 2022 application. In Section 2.2, this application states that changes to the current limits for lead emissions set by Permit 95010001 are not requested. As such, this application acknowledges the current limits for lead emissions in Permit 95010001, including the limits for uncaptured emissions from these furnaces that are emitted through the roof monitor (Permit 95010001 Condition 18 and Table 2, Item 2). Revisions to these limits are not requested.

[19] The 2022 application addresses uncaptured emission of VOM of the basic oxygen furnaces in a similar manner in Part 7 of the application. Refer to the second Section 7.2.2.1 in the application on p. 6-4, "BOF Baghouse – Secondary Emissions (New)."

[20] As reflected in this excerpt, the 2022 application refers to the NOx and VOM emissions of the baghouse system as "secondary emissions." This is inconsistent with the meaning of this term under the NESHAP for Integrated Iron and Steel Manufacturing Facilities, 40 CFR 63 Subpart FFFFF, which only restricts this term to emissions of particulate matter. It is also misleading as it does not distinguish between captured and uncaptured emissions and suggests that capture of these emissions with a baghouse is sufficient to eliminate concerns for the existence of uncaptured emissions.

In this regard, as defined at 40 CFR 63.7852, "*Secondary emissions* mean **particulate matter** emissions (emphasis added) that are not controlled by a primary emissions control system, including emissions that escape from open and closed hoods, lance hole openings, and gaps or tears in the primary emission control system." For secondary emissions, 40 CFR 63 Subpart FFFFF recognizes the existence of both captured or stack emissions and uncaptured emissions, as would occur through a roof monitor. For basic oxygen furnaces, as well as setting emission limits for particulate emissions from primary control systems, this NESHAP also sets separate emission limits for 1) the particulate matter emissions from a control device used for the collection of secondary emissions, and 2) the opacity of secondary emissions that exit any opening in the furnace shop or other building housing a basic oxygen furnace.

> baghouse completed in the 2019-2020 time frame shows an average NOx rate of 0.0075 lb/ton for the BOF Shop Baghouse Stack. USS Granite City added the BOF Shop secondary NOx emission baseline based on the result of the stack test for the BOF Shop Baghouse stack.
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> 2022 application, Section 6.2.2.6. "BOF Baghouse – Secondary Emissions (New)."

This assumption made by the 2022 application for uncaptured emissions of NOx and VOM of the basic oxygen furnaces, i.e., that all emissions that were formerly uncaptured are now emitted through the baghouse system, is not appropriate. At a fundamental level, the application does not include any support for this assumption. A rigorous analysis for and quantification of the uncaptured emissions of NOx and VOM from these furnaces is warranted as these emissions were overlooked in the original permitting for the Project.[21]

Then, the data for NOx and VOM emissions from the baghouse stack, which is now available from testing of the baghouse, does not support this assumption and, if anything, shows that this assumption is unsound. This is because this testing does not address the level of capture being achieved by the baghouse system. Rather it shows that there are emissions of these pollutants from charging and tapping and, as such, data for the uncaptured emissions of these pollutants is also appropriate. In this regard, the results of emission testing for the NOx and VOM emissions from the new baghouse system on these furnaces, as cited by the application, indicate more than negligible levels of emissions. (2022 application, Appendix B – Emission Calculations, USS Granite City – 1996 Production Increase Project: Revised NOx PSD Net Emissions Increase

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[21] In the original permitting of the Project, the uncaptured emissions of NOx and VOM from the basic oxygen furnaces appear to have been considered negligible. This was likely because the emissions of NOx and VOM of the furnaces were all attributed to the refining process, rather than to charging and tapping. During the refining step in a basic oxygen furnace, oxygen is injected into the molten iron charged to a furnace, which removes carbon from the iron by oxidation, converting the iron into steel. The oxidation of the carbon also provides heat to facilitate the melting of the scrap metal that is also charged to the furnace, so molten metal in the appropriate temperature range can be tapped from the furnace.

In 1996, the basic oxygen furnaces were only controlled by the electrostatic precipitator (ESP) system. While the ESP system only reduces or controls emissions of particulate and not emissions of NOx or VOM, the ESP system does capture NOx and VOM from these furnaces. As the capture efficiency for particulate emissions from refining is assumed to be at least 99.9 percent, it was also reasonable to assume that the ESP system also would achieve at least 99 percent capture for NOx and VOM. With these assumptions, i.e., that NOx and VOM are only generated during the refining step and at least 99.9 percent capture of these emissions is achieved by the ESP system, given the limits on emissions of NOx and VOM from the stack of the ESP set by Permit 95010001, i.e., 69.63 and 10.74 tons/year, respectively, the uncaptured emissions of NOx and VOM from these furnaces would have been projected to be no more than 0.07 and 0.01 tons/year, respectively,. (For example, for NOx, 69.63 tons/year ÷ (99.9 ÷ 100.0) x (100.0 – 99.9) ÷ 100.0 = 0.07 tons/year.) For purposes of determining applicability of NSR to the Project, the increases in NOx and VOM emissions of the furnaces with the Project would be less because these calculations for uncaptured emissions address all emissions of the furnaces, both baseline emissions and the increases in emissions from the Project.

Even with the correction to the emission data for the basic oxygen furnaces indicated in the 2022 application, if all NOx and VOM emissions of these furnaces were actually attributable to the refining step, uncaptured NOx and VOM emissions would still be very small. For example, the potential NOx emissions from the stack of the ESP are now shown to be 380.0 tons/year. With capture of at least 99.9 percent of the NOx by the ESP system, the potential uncaptured NOx emissions from these furnaces would still only be an additional 0.38 tons/year.

Analysis and Revised VOM PSD Net Emissions Increase Analysis.) For NOx, the application indicates baseline captured emissions of 179.8 tons/year, of which, based on the measured emissions from the new baghouse system, as much as 5.1 percent, i.e., 9.1 tons/year, would have been uncaptured in 1996; captured VOM emissions are 26.6 tons/year, of which as much as 15.8 percent, i.e., 4.2 tons/year, would have been uncaptured emissions in 1996. However, instead of assuming that all NOx and VOM emissions are now captured, it would not be unreasonable to assume that the new baghouse system improved capture of the emissions from charging and tapping such that the levels of captured emissions from the baghouse stack and the uncaptured emissions through the roof monitor are now identical.[22, 23]

Finally, the assumption that all NOx and VOM emissions of these furnaces is now captured is inconsistent with the approach taken in the 2022 application to the particulate and lead emissions of these furnaces, for which it is assumed that there are uncaptured emissions that still occur through the roof monitor. In particular, the 2022 application requests that the revised permit establish prescribed emission factors for the particulate emissions of the basic oxygen furnaces that occur through the roof monitor.[24] For example, for pre-project actual emissions of the roof monitor, Section 5.2.2.7 of the application explains the following, [25]

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[23] It is reasonable to assume that the new baghouse that was installed to improve control of particulate emissions from charging and tapping of the basic oxygen furnaces reduced these emissions to less than half of their previous amounts. For example, the nominal control efficiency for charging and tapping went from 95 percent with only the ESP control system to 97.5 percent with the addition of the baghouse system. With this assumption, the potential NOx and VOM emissions from the baghouse stack from charging and tapping would be estimated to be about the same as the potential uncaptured emissions from charging and tapping that still occur through the roof monitor, with both being about 2.5 percent of the total emissions from the furnaces. The remainder of the NOx and VOM emissions from charging and tapping continue to occur through the ESP stack (95 percent of the total emissions of the furnaces).

[23] With this assumption, the potential NOx emissions of the basic oxygen furnaces with the Project would become 420.4 tons/year, rather than 400.0 tons/year (400.0 tons/year x (100% + 5.1%) ÷ 100% = 420.4 tons/year. The potential VOM emissions of these furnaces with the Project would become 52.1 tons/year, rather than 45.0 tons/year (45.0 tons/year x (100% + 15.8%) ÷ 100% = 52.1 tons/year.

[24] The 2022 application requests that Permit 95010001 be revised to set "prescribed emission factors" for the emissions of certain emissions units or their uncaptured emissions (e.g., the uncaptured particulate emissions of the basic oxygen furnaces, which are also referred to as the emissions through the roof monitor of the basic oxygen furnace shop). For those units or emission points, the prescribed emission factors would effectively replace the provisions currently in Permit 95010001 that address emissions in pounds/ton of input or production or in pounds/hour. For convenience, these provisions in the permit are generally referred to as "emission factor limits." The usage of this term extends to the provisions of the permit that address emission of lead that are in pounds per hour. In this regard, in Permit 95010001, Table 2, these limits for lead emissions are listed under the heading of "Emission Factor," along with the limits in pounds per ton of production for emissions of other pollutants.

Unlike the emission factor limits currently in Permit 95010001, which the Illinois EPA considers to be directly enforceable against US Steel, prescribed emissions factors that would be established in a revision to Permit 95010001 would not be enforceable. Instead, prescribed emission factors would be specific values for emission rates that US Steel would have to use for normal operation when determining compliance with the limits on annual emissions set by the revised permit. The appropriateness of the various prescribed emissions factors that are selected would be a matter that would be considered during the processing of the revisions to Permit 95010001. Given the role of prescribed emission factors in determining compliance with annual emission limits set by the permit, it is expected that prescribed emission factors would only be set for units for which emissions testing is not feasible or is not warranted

> Prescribed emissions factors consistent with the approach described in Section 3 [Discussion of Permit Conditions Used to Restrict PTE] are provided herein. USS Granite City is proposing prescribed emission factors for the BOF Shop Roof Monitor for which emissions testing is not feasible.[Footnote 33] For BOF Roof Shop Monitor, use PM emissions factor of 0.0296 lb/ton and filterable PM_{10} emission factor of 0.0198 lb/ton.
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> Footnote 33: PM and PM_{10} emissions factors are appropriately determined from the results of emission testing per 40 CFR 63 Subpart FFFFF to determine PM and PM_{10} emission rates for the BOF ESP and baghouse, Desulf/Soda Ash and Hot Metal Charging Baghouse, Slag Skimming Baghouse, and Baghouse 2 for Argon Stirring and Ladle Metallurgy.
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> 2022 application, Section 5.5.2.2. "Prescribed Emission Factors for Certain BOF Shop Operations."

The fact that there are emissions of NOx and VOM from the basic oxygen furnaces that now occur from the stack of the new baghouse system but were previously not captured and were not originally quantified raises concern that similar circumstances are present for emissions of CO.[26] In this regard, the 2022 application requests various revisions to Permit 95010001 to correct issues that are posed for the original permitting of the Project with respect to CO emissions, but the application does not propose any such revisions for the basic oxygen furnaces or explain why such revisions are not needed.[27]

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given the low levels of annual emissions predicted by engineering analysis and calculations. It is also expected that, as it is practical to do so, prescribed emission factors would be conservative, reflecting the maximum rates of emissions that could occur during the routine, compliant operation of emissions units.

[25] For pre-project actual emissions of particulate matter of the basic oxygen furnace through the roof monitor, Section 5.2.2.7 of the 2022 application explains the following,

> The BOF roof monitor actual emissions were calculated using the information from AP-42 Chapter 12.5 and AIRS (Aerometric Information Retrieval System) database. For pre-change actual PM and PM_{10} emissions, National Steel used 90% capture efficiency during the charging and tapping steps and 99% capture efficiency during the refining step for BOP operations. A detailed description of the baseline roof monitor PM and PM_{10} emission factors is provided in Appendix C of the 1995 Application. For the BOF operations, per particle size distribution in AP-42 Table 12.5-2, 67% of PM is PM_{10}. No changes are necessary for this emission factor.
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> 2022 application, Section 5.2.7.7, BOF Roof Monitor Emissions (No Change)

[26] For the basic oxygen furnaces, uncaptured emissions of CO should generally be expected to be much greater than the uncaptured emissions of NOx or VOM because the permitted stack emissions of CO of these furnaces are much greater. In this regard, Permit 95010001 limits the CO emissions from the stack of the ESP system for these furnaces to 16,097 tons/year. (The 2022 application does not request an increase in this limit.) If only 99.9 percent capture of CO is assumed by the ESP system, the potential uncaptured CO emissions of these furnaces would be 16.1 tons/year. (16,097 tons/year ÷ {99.9 ÷ 100.0} x {100.0 – 99.9} ÷ 100.0 = 16.1 tons/year CO.) Of course, the capture efficiency of the ESP system for CO could be higher than the efficiency for NOx or VOM if CO is only formed during the refining step when oxygen is actually being injected into the furnace and not during the entire refining step. However, one approach to the revision of Permit 95010001 would be to conservatively assume that the capture efficiency of the ESP system for CO is the same as its capture efficiency for particulate.

[27] The application also does not suggest that it would be inappropriate for any revised permit to simply limit the stack emissions of CO from the basic oxygen furnaces, addressing the combined stack emissions

of the ESP and the new baghouse, to the current limits for the CO emissions of the furnaces in Permit 95010001, which limits currently apply only to emissions from the stack of the ESP.

5. THE EMISSION INVENTORY FOR THE SOURCE USED IN THE AIR QUALITY ANALYSIS FOR CARBON MONOXIDE (CO) OMITS CERTAIN CO EMISSIONS

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 9.1(d), 39(a)* and 39(a)**.

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.152***, 201.160(a), 204.330, 204.1110 and 204.1130.

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* The "Air Quality Modeling Report," Appendix C of the 2022 application, which provides the "Source Impact Analysis" required under PSD, is deficient because it does not address certain CO emissions of units that are at or were at the Granite City Works. In particular, the uncaptured CO emissions of the blast furnace cast house and the BOFs (i.e., the emissions that occur from the roof monitors and other openings in structures) are not addressed. The CO emissions of the two by-product recovery coke oven batteries formerly at the Granite City Works, which were in operation in 1996, are also not addressed.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* As the source impact analysis in the 2022 application does not address certain CO emissions, it does not fully address the impact of the Production Increase Project, with increases in permitted CO emissions as now requested, on ambient air quality for CO. This analysis also does not address the impact of the Project on CO air quality as would have been determined in 1996 if the Project had been permitted for more CO emissions, as is now being requested by the 2022 application.

Discussion

The results of the analysis of the impacts of the Project on ambient air quality for carbon monoxide (CO) cannot be relied upon because the inventory for the CO emissions of the source with the Project does not address all CO emissions or otherwise explain why the CO emissions of certain units need not be considered. The 2022 application includes an air quality analysis because the Project was originally permitted as a major modification for CO under the Prevention of Significant Deterioration (PSD) program and the application requests revisions to Permit 95010001 to increase the CO emissions for which the Project is permitted.[28] To support

[28] The 2022 application requests that Permit 95010001 be revised to address an additional 25,334 tons/year of CO. This would include emissions of 320 tons/year of CO from the casthouse on the blast furnaces, for which CO was not addressed in the original permitting for the project (2022 application, Section 4.4, p. 4-4) . This would also include an additional 25,014 ton/year from Project-affected fuel burning units, other than Boilers 1 through 10, which are now retired (2022 application, Sections 4.2 and

this request, an air quality analysis for CO must be part of the application pursuant to Illinois' PSD rules, 35 IAC 204.1130, Air Quality Analysis, since the request involves revisions to the provisions in Permit 95010001 that involve the Project as it is a major modification for CO under the PSD program.

Uncaptured Emissions from the Casthouse on the Blast Furnaces

The air quality analysis in the 2022 application does not address the uncaptured emissions of the casthouse (2022 application, Appendix C – Air Quality Modeling Report, Table for "US Steel Granite City Volume Source Inputs"). The application indicates potential CO emissions of 13.6 tons/year from the roof monitor on the casthouse on the blast furnaces (2022 application, Section 4.4). These "uncaptured" CO emissions, which are not captured by the baghouse systems on the casthouse, must be addressed in the air quality analysis submitted to support revisions of Permit 95010001 to provide for more CO emissions from the Project.

Uncaptured Emissions from the Basic Oxygen Furnaces

The air quality analysis in the 2022 application does not address uncaptured emissions of the basic oxygen furnaces. (2022 application, Appendix C – Air Quality Modeling Report, Table for "US Steel Granite City Volume Source Inputs.") As discussed earlier, the 2022 application does not address uncaptured emissions from these furnaces. The application also does not explain why uncaptured emissions would not be present as the application does not show 100 percent capture of the emissions of these furnaces by the control systems for emissions of particulate. As there are uncaptured CO emissions from these furnaces, these emissions must also be addressed in the air quality analysis submitted to support revisions of Permit 95010001 to accommodate additional CO emissions from the Project.

By-product Coke Oven Batteries

The 2022 application does not explain why the air quality analysis in the application should not consider the CO emissions of the former by-product coke oven batteries at the source. These batteries were in operation when the Project was originally permitted in 1996 and did not cease operation until 2015. Accordingly, the analysis does not address CO ambient air quality with the Project as would have been predicted by the original air quality analysis for the Project if it had addressed the additional CO emissions now being requested for the Project. On the other hand, the analysis addresses CO emissions of emission units that did not exist in 1996, as this analysis addresses the emissions of the heat recovery coke ovens adjacent to the Granite City Works, which were built and are now operated by Gateway Energy & Coke. [29]

4.3, pp. 4-2 and 4-3). For the fuel burning units, US Steel has determined that the emission factors for CO utilized in the original permitting of the Project, particularly the emission factor for blast furnace gas used in the blast furnaces stoves, understated CO emissions.

[29] The modelling in the air quality analysis did address certain newer units, which came into operation after the Project in 1996. In particular, the analysis addressed the CO emissions of the new coke oven batteries adjacent to the Granite City Works that are owned and operated by Gateway Energy & Coke. However, modeling of the CO emissions of new units would only compensate for the CO emissions of existing units if the new batteries were direct, in-kind replacements of the shutdown units, which is not the case. This is not the case. The batteries that were shut down by US Steel were by-product recovery batteries. They recovered chemicals from the off-gas from the coking process (e.g., benzene, toluene and naphthalene, with the gas then used as fuel for heating the coke ovens and in certain other units at the

source. Gateway's batteries are heat recovery batteries, in which the off-gas from coking is combusted in the ovens and the heat is used to make steam and generate electricity. Moreover, the new batteries and the old batteries both operated for a period of several years before US Steel shut down its batteries.

5A. ISSUES WITH THE BACKGROUND AIR QUALITY USED IN THE AIR QUALITY ANALYSIS THE EMISSION INVENTORY FOR THE SOURCE USED IN

(Note: In the Initial Draft Denial, this denial point, Denial Point 5A, was not addressed separately but was instead addressed as part of Denial Point 5. This deficiency is now being addressed separately for ease of understanding. This deficiency relates to the value for background ambient air quality used in the CO air quality analysis rather than deficiencies in the inventory of sources (i.e., the compilation of emissions units and emission data) used in the dispersion modeling in the air quality impact analysis for CO.)

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 9.1(d) and 39(a)* and 39(a)**.

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.160(a), 204.330, 204.1110 and 204.1130.

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* The "Air Quality Modeling Report," Appendix C of the 2022 application, which also provides the "Air Quality Analysis" required under PSD, is deficient. As related to baseline ambient air quality for CO, this report does not address baseline ambient air quality as existed at the time that the Production Increase Project was initially permitted. It also does not address ambient air quality as it presently exists. Rather, a value for background air quality from ambient monitoring conducted in 2016 through 2018 is used. This does not represent either air quality in the period before the Project was initially permitted or air quality at the present time. While the monitoring station in East St. Louis that was the source for the value selected for background air quality ceased operation in 2019, the Missouri Department of Natural Resources continues to conduct ambient monitoring for CO at a site in St. Louis. (In this regard, the 2022 application, p. 4-5, indicates that "There are many existing ambient CO monitors within the 100 miles of the facility (Figure 4).") The 2022 application does not justify use of a value for background ambient air quality that is not representative of the period when the Project was initially permitted. Then, if this can be justified, the 2022 application does not explain why it is appropriate to use a value for background air quality taken from ambient monitoring conducted over five years ago.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested*: Because of the issues with the value for baseline air quality used in the "Air Quality Modeling Report" in the 2022 application, as discussed above, it would not be proper to rely on the results of this report to issue a revised permit what would provide for increases in permitted CO emissions as requested by the 2022 application.

Discussion

In addition [to the deficiency addressed in Denial Point 5], the air quality analysis in the application uses a value for CO background air quality on an 8-hour average that is based on ambient air quality data collected for a three year period consisting of 2016, 2017 and 2018. As such the value used for background air quality is not necessarily appropriate as a representation of either current ambient air quality or the historic air quality at the time that the Project was originally permitted.[30]

[30] Under the PSD program, the air quality analysis for a project whose modelled maximum impact(s) by itself on air quality for a pollutant are above certain specified concentration(s) or "significant impacts levels" under the PSD program must also consider "background air quality." This accounts for the contribution to ambient air quality of mobile sources (e.g., cars, trucks and buses) and of other sources (e.g., residential and commercial heating), which contribution cannot be determined as part of the computerized dispersion modelling for discrete emission units performed as part of the analysis. The air quality analysis in the 2022 application shows that the maximum air quality impact of the Project with the requested increases in CO emissions would continue to be above the significant impact level for CO on an 8-hour average. (In the original air quality analysis, the Project's impacts were significant for CO on both a 1-hour and an 8-hours average.) The value for background in the current air quality analysis is based on data collected at an ambient air monitoring station in East St. Louis operated by the Illinois EPA. If US Steel shows that the air quality analysis for the revision to Permit 95010001 should address current ambient air quality for CO, the value for background air quality in the analysis should be updated. Since the Illinois EPA discontinued ambient monitoring for CO at its East St. Louis monitoring station in 2020, the new value for background would likely need to be based on data collected at an appropriate monitoring station in Missouri operated by the Missouri Department of Natural Resources.

It should be noted that the values for background used in the original air quality analysis were likely conservative, as they were based on data from a now retired monitoring station in Granite City that was less than a third of a mile from the Granite City Works. Given the location of that station, the ambient air quality data collected at that station may have included the contribution to air quality of units for which modelling was also conducted, so that the original analysis effectively counted the impacts of those units twice. Thus, it is reasonable for the current air quality analysis to use value(s) for background air quality based on data collected at a monitoring station other than the one that was originally used.

6. SCOPE OF PROPOSED GROUP EMISSION LIMITS

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 9.1(d), 39(a)* and 39(a)**.

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.160(a), 203.123, 203.128, 204.400 and 204.560.

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* The 2022 application does not show that certain proposed collections of emission units for the "group limits" for annual emissions of particulate, NOx and VOM that are generally requested are appropriate. In this regard, the 2022 application does not propose limitations that would only apply to the annual emissions of particulate of the casthouse for the two blast furnaces. The application also does not propose limitations that would apply only to the annual particulate emissions of the two BOFs. These are principal emission units at the Granite City Works. For the casthouse, the 2022 application does not show that that it would be unreasonable or inappropriate for Permit 95010001 to continue to have limitations for annual emissions of particulate that are directly enforceable independent of emissions of the other, lesser units involved in production of iron (i.e., the charging of the blast furnaces and slag pit operations). (As the application does not indicate any NOx or VOM emissions from these lesser operations, it is unclear whether group limits are actually being requested for blast furnace operations for NOx and VOM.) Similarly, for the BOFs, the 2022 application does not show that it would be unreasonable or inappropriate for Permit 95010001 to continue to have limitations for annual particulate emissions that are directly enforceable independent of the emissions of other, lesser units involved in making steel (i.e., the removal of sulfur from the molten iron, the skimming of the resulting slag from the surface of the iron in the ladle, and the ladle metallurgy operations after the BOFs). (The application does not actually indicate any NOx emissions from these lesser operations; for VOM, the only lesser unit identified with emissions is the skimming of slag.) While the 2022 application points to three construction permits for facilities issued by other permitting authorities as support for the proposition that limitations on annual emissions that apply to both principal units and lesser units are appropriate, the 2022 application does not show that the circumstances of the Granite City Works are such that those other permits should serve as precedents for the requested revisions of Permit 95010001. Variability in utilization or activity was an inherent aspect in the basic design or purpose of those three facilities and led to the approach to the emissions limitations that were set for those facilities. In this regard, one facility involved a fleet of sea-going vessels engaged in exploration for petroleum. The second facility, "the first of its kind," would be developed to make fuel ethanol from processed municipal waste and sewage sludge. (It may also be relevant that the construction permit for this facility, and as well as the permit for a fleet of vessels that would conduct offshore exploration for petroleum, both limited emissions so that the facilities would not be major sources for purposes of NSR.)

The third facility was being developed as a peaking power plant, to operate mainly when other sources of electricity, including wind and solar power, could not fully satisfy the demand for electricity. Moreover, this last permit sets limitations for the annual emissions of a group of identical generating units. As such, this permit does not provide support for setting limitations for a collection of disparate emission units. In summary, the 2022 application does not request revisions to Permit 95010001, that would continue to separately limit the annual particulate emissions of the blast furnace casthouse and the annual emissions of the two BOFs by themselves.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* If a revision to Permit 95010001 were issued without limits that independently apply to the emissions of the blast furnaces casthouse and to the emissions of the two BOFs, the 2022 application would not show the limits on annual emissions established in such revised permit would serve to restrict the emissions of the casthouse and the two BOFs as a practical matter. In this regard, as US Steel is applying for revisions to emission limits that are currently in Permit 95010001, it is obliged in its application to adequately explain and justify the revisions to the current emission limits that it is requesting. The three permits cited by US Steel in the 2022 application do suggest that permit limitations for the annual emissions of emission units that are accompanied by appropriate operational and/or emissions monitoring may now be considered acceptable as being enforceable as a practical matter without associated emission factor limits, i.e., limits on emission of pollutant(s) in pounds per ton of production or throughput, pounds per million Btu fuel heat input or pounds per hour. However, these permits do not show that the stringency of the current limits for the annual emissions of principal emissions units at the Granite City Works, a facility with substantial emissions in an urban area, should generally be relaxed by setting revised limits that would now apply to emissions of both principal unit(s) and other lesser units, as is proposed by the 2022 application.

Discussion

The application does not show that the proposed collections of emission units for the requested group limits for annual emissions of particulate, NOx and VOM are appropriate.[31, 32] In particular,

[31] For PM, PM_{10}, NOx and VOM (i.e., pollutants other than sulfur dioxide (SO_2), carbon monoxide (CO) and lead), the 2022 application requests that the revised permit not include the provisions in Permit 95010001 that the Illinois EPA considers would limit emissions of individual "processes" in pounds/ton of production or throughput and in tons/year. These provisions were set to ensure that the Project would not be a major modification for purposes of New Source Review (NSR). The removal from Permit 95010001 of the "emission factor limits" which limit emissions of various process operations relative to their production or throughput, would facilitate resolution of two permit appeals filed by US Steel with the Illinois Pollution Control Board (PCB), PCB 2013-53 and PCB 2013-62. Both appeals indirectly address the emission factor limits in Permit 95010001. PCB 2013-53 concerns the revised Clean Air Act Permit Program (CAAPP) permit for the facility (Permit 96030056) issued in 2013. US Steel appealed this permit as it repeats the emission factor limits as originally set by Permit 95010001. PCB 2013-62 concerns the construction permit for the addition of the baghouse system to improve control of particulate emissions from charging and tapping of the BOFs, Permit 11050006, as reissued in 2013. For the BOFs, this permit also repeats the emission factors limits for the BOFs set by Permit 95010001. US Steel

the application does not propose limits that would only apply to the annual emissions of the casthouse on the blast furnaces and to the annual emissions of the two basic oxygen furnaces. These are principal emission units at this facility. It would be reasonable and appropriate for both the annual emissions of the casthouse and the annual emissions of the two basic oxygen furnaces to be directly limited separately from the emissions of any other units. The construction permits issued by permitting authorities in other jurisdictions cited in the application as support for emission limits that apply to groups of emission units do not show that the annual emissions of the casthouse and the basic oxygen furnaces should not both continue to be limited individually.[33]

In this regard, the 2022 application points to USEPA policy and practice concerning how the potential emissions of a source may be restricted (2022 application, Section 3, "Discussion of Permit Conditions used to Restrict PTE [Potential to Emit]). The application shows that USEPA has found that construction permits may be issued that restrict potential emissions by means of

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appealed the subject emission factor limits in these permits because, prior to issuing the revised CAAPP permit for the facility in 2013, the Illinois EPA had explicitly explained that the provisions in the permit containing emission factors were considered to constitute enforceable limits on emissions. This was done in the Illinois EPA's "Statement of Basis for a Planned Revision of the Clean Air Act Permit Program (CAAPP) Permit for: U. S. Steel Corporation, Granite City Works, 20th and State Streets, Granite City, Illinois," of March 2011, pages 20 through 26. That these provisions set enforceable limits was then recognized by the USEPA in the Administrator's subsequent order of December 3, 2012, "In the Matter of United States Steel Corporation – Granite City Works, CAAPP Permit No. 96030056," Petition Number V-2011-2, pages 7 through 9).

[32] With regard to the current limits for the annual emissions of PM, PM_{10}, NOx and VOM of individual processes, the 2022 application requests "group limits" for the annual emissions of groups of related emission units. For example, the application requests that the revised permit limit the overall emissions of a group of units that includes the casthouse for the blast furnaces and other, ancillary units involved in production of iron. The permit currently sets separate limits for the emissions of the casthouse, the emissions from charging the blast furnaces, and the emissions from slag pit activities. Unlike the current limits for annual emissions, which apply on a calendar year basis, the proposed new limits for annual emissions would be rolled monthly, restricting emissions over each consecutive 12 month period. The requested limits would theoretically be less stringent than the current limits as US Steel could potentially compensate for any "overage" of emissions by unit(s) in a group of units with lower levels of emissions from other units in the group.

Incidentally, in these appeals, US Steel only challenges the emission factor limits for "processes," such as the casthouse, the basic oxygen furnaces, continuous casting operations, and discrete material handling operations. These appeals do not challenge the emission factor limits for fuel burning units affected by the Project. Those limits do not restrict the emissions of individual units or groups of similar units. Instead, they separately restrict the emissions from use of different fuels, i.e., blast furnace gas, natural gas and oil.

[33] In light of the construction permits issued by other permit authorities cited by the application as support for group limits, it would seem acceptable for a revised permit to set group limits for the emissions units or operations that do not qualify as principal units. For example, for the production of iron, a revised permit could set limits for the overall emissions from charging the blast furnaces and the slag pits. Alternatively, limits specifically for the emissions of the casthouse for the blast furnaces and the basic oxygen furnaces, i.e., the principal units at the facility for iron and steel production, could be accompanied by group limits for the overall emissions of these principal units and the other, "non-principal" units in these areas of the facility. For example, limits could be set for both emissions of the casthouse and for the emissions of the casthouse, charging of the blast furnaces, and the slag pits.

limits on annual emissions that are practically enforceable. Accordingly, the current provisions in Permit 95010001 that limit emissions of process units in pounds/ton of production of throughput, which apply on a short-term rather than annual or long-term basis, are not essential to restrict potential emissions. In addition, the application points to several construction permits issued outside of Illinois since 2000 for which the permitting authority determined that annual emission limits that apply to groups of emission units that are practically enforceable were determined to be sufficient to restrict potential emissions without need for accompanying limits that address emissions on a short-term basis.[34, 35] However, the 2022 application does not show that the specific circumstances of the Project are such that the current limits for annual emission of the principal emission units should be replaced with group limits that apply to the combined emissions of principal emission units and other lesser emission units.[36] The circumstances of the

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[34] The 2022 application, Appendix E - "Copies of EPA Determinations," contains two decisions by the USEPA's Environmental Appeals Board (EAB):

- The 2012 decision of the EAB for an Outer Continental Shelf (OCS) Permit to Construct and Title V Air Quality Operating Permit issued by Region 10 of USEPA to Shell Offshore, Inc. (USEPA, EAB, *In Re Shell Offshore, Inc.*, OCS Appeals Nos. 11-05, 11-06 & 11-07, Order Denying Petitions for Review, Decided March 30, 2012).
- The 2018 decision of the EAB for a PSD permit issued by the Department of Environmental Quality for Pima County, Arizona, to Tucson Electric Power (USEPA, EAB, *In Re Tucson Electric Power*, PSD Appeal No. 18-02, Order Denying Review, Decided December 3, 2018).

[35] In a footnote, the 2022 application also refers to the USEPA's order responding to a petition to object to a Title V permit issued for a facility in Middletown, New York proposed by Masada (USEPA, Order, May 2, 2001, *In the Matter of Orange Recycling and Ethanol Production Facility, Pencor-Masada Oxynol, LLC*, Permit ID: 3-3309-00101/00001, Issued by the New York State Department of Environmental Conservation, Petition No.: II-2000-07.) As explained by US Steel in the application, in this order, the USEPA upheld the,

> …use of annual emission caps with a rolling cumulative total methodology and rejected petitioners' "concerns that the permit appears to rely on after-the-fact monitoring, rather than engineering practices, test data or vendor guarantees" to establish restrictions on PTE. U. S. EPA based its findings on the fact that "[i]f the source has no room to operate under the PTE emission limiting cap, it must cease operation or face a violation" and that "all PTE limits rely on after the fact monitoring of some kind."
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> 2022 application, Footnote 11.

[36] For the casthouse on the blast furnaces, Permit 95010001 currently sets separate limits for the emissions of various pollutants from the casthouse baghouse (i.e., the main baghouse for the casthouse), the iron spout baghouse, and the roof monitor (uncaptured emissions). If Permit 95010001 were to be revised, it would be reasonable for each pollutant for which emissions are limited, other than CO, for the permit to restrict the overall emissions of the pollutant from the casthouse, rather than to individually limit the stack emissions of each control system and uncaptured emissions. The application also does not suggest that it would be inappropriate for any revised permit to simply limit the stack emissions of CO from the BOFs.

For the basic oxygen furnaces, the current permit separately addresses emissions of particulate and lead from the stack of the ESP and the roof monitor (uncaptured emissions.) For these furnaces, it would also be reasonable in a revised permit to set limits for different pollutants for the overall emissions of the pollutant from these furnaces. In particular, the revised permit would not set limits specifically for the emissions of the new baghouse system that was installed to improve control of particulate emissions from charging and tapping of these furnaces. Instead, the revised permit would address emissions that occur from this baghouse with limits for different pollutants for the overall emissions of these furnaces.

Granite City Works are not the same as those presented by the cited permits. US Steel's Granite City Works is a manufacturing facility at which iron is produced from iron ore in blast furnaces and steel is produced from molten iron and scrap metal in basic oxygen furnaces. The processes that generate emissions at the Granite City Works are different than the oil-fired engines that are generally addressed by the permit for Shell Offshore and the natural gas-fired engines addressed by the permit for Tucson Electric. The permit for Shell Offshore, Inc., addresses a marine drilling unit, the "Kulluk," and an associated fleet of support vessels that may be used during July through November of each year to conduct exploratory drilling operations in areas of the Beaufort Sea north of Alaska. The permit for Tucson Electric Power addressed a new peaking electrical generating facility with ten engine-generating units at Tucson Electric's Irvington Station. The utilization of the individual generating units in the new facility would vary from day to day and season to season as the use of the units would be tied to the inability of other electrical generating facilities to meet the demand for electricity.[37]

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[37] At the Shell Off-Shore and Masada facilities, variability of utilization or operation of different emission units was a consideration in the permitting of these facilities. In its response to comments on the draft permit for Shell Offshore, USEPA Region 10 explains,

> The commenters are correct that EPA guidance does express a general preference for shorter time periods rather than 12-month rolling limits. See 1989 PTE Guidance at 9. As the commenter acknowledges, however, EPA has also recognized that longer rolling limits are appropriate for sources with substantial and unpredictable variations in emissions, as well as for those sources that curtail operation during part of a year on a regular seasonal cycle. Id. at 9 – 10. Such is the case here. Shell's planned exploratory operations are atypical as compared to other sources because emission units consist of multiple engines and generators with variable emission on the Kulluk and a fleet of numerous support vessels. Operations will vary from hour-to-hour, day-to-day month-to-month, and season-to-season based on factors such as the number of wells drilled, the activity being undertaken (drilling mud cellar lines, other drilling activity, or activity that does not involve drilling), the depth of wells drilled, whether emergency engines are being run for testing, and ice conditions. Given the variability in operations, and thus emissions expected from the source, and after considering a full range of options for limiting the source's potential to emit, Region 10 determined that it was appropriate to establish longer-term rolling limits.
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> USEPA, Region 10, "Response for Comments for Outer Continental Shelf Permit to Construct and Title V Air Quality Operating Permit: Conical Drilling Unit Kulluk," October 2011, p. 26.

In the USEPA's order for Masada of April 8, 2002, USEPA observes that,

> Masada's operations will have significant fluctuations due [sic] the variability of the processed waste, making an operating parameter-based PTE limit less appropriate. The emissions-based PTE limit discussed below recognizes this fact and provides Masada with operational flexibility accordingly. Moreover, Masada will be measuring its emissions on a real-time basis using CEMS [continuous emissions monitoring systems], obviating the need to limit and monitor operating parameters as a surrogate for emissions.[Footnote 6] Thus the petitioners have not demonstrated that it was inappropriate for the NYSDEC [New York State Department of Environmental Conservation] to restrict Masada's emissions directly, rather than its operation or production.
>
> Although it is generally preferable that PTE limitations be as short-term as possible (e.g., not to exceed one month), EPA guidance [USEPA, "Guidance on Limiting Potential to Emit in New Source

7. INADEQUATE JUSTIFICATION FOR ELIMINATION OR REVISION OF CURRENT LIMITS FOR PROJECT-AFFECTED FUEL BURNING UNITS

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 9.1(d), 39(a)* and 39(a)**.

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.160(a), 203.123, 203.128, 204.400 and 204.560.

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* The 2022 application does not include information that would support revisions to Permit 95010001 to revise or eliminate current limitations for usage of fuels by the Project-affected fuel burning units, as is requested by the application. With regard to the elimination of the current limitations, the 2022 application does not quantitatively demonstrate that this would not result in an increase in the potential emissions of the subject units. This is of particular concern as Permit 9501001 does not limit the usage of COG, which was not quantitatively addressed in 1996 during the initial permitting of the Production Increase Project. Moreover, with the shutdown in 2015 of the two by-product recovery coke oven batteries at the facility, more natural gas must now be used as fuel in certain subject units (e.g., the blast furnace stoves), to replace the COG that was previously used. With regard to the revisions of the current limitations, the 2022 application does not include information that would be necessary for the Illinois EPA to set values for revised limitations that would be appropriate. As discussed above in Denial Point 3A, the 2022 application does not include the data and calculations underlying the representations in the 2022 application for future maximum emission of the Project-affected

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Permitting," June 13, 1989) also allows permits to be written with longer term limits if they are rolled (meaning recalculated periodically with updated data) on a frequent basis (e.g., daily or monthly). The 1989 guidance recognizes that such longer rolling limits may be appropriate for sources with "substantial and unpredictable annual variation in production." 1989 Guidance at 9.

Footnote 6. This is consistent with prior EPA practice in appropriate circumstances. See e.g., Memorandum entitled "3M Tape Manufacturing Division Plant, St. Paul, Minnesota," from John Rasnic to David Kee, dated July 14, 1992 ("a federally enforceable emission limit may be used …to limit the potential to emit as long as a continuous emissions monitor (CEM) or an acceptable alternative is used."); and Memorandum entitled "Policy Determination on Limiting Potential to Emit for Koch Refining Company Clean Fuels Project," from John Rasnic to David Kee, dated March 13, 1992 ("Use of an emission limit to restrict potential to emit …is acceptable provided that emissions can be and are required to be readily determined or calculated.")

USEPA, Order, April 8, 2002, "*In the Matter of Orange Recycling and Ethanol Production Facility, Poncor-Masada Oxynol, LLC*, Permit ID: 3-3309-00101/00003, Issued by the New York State Department of Environmental Conservation," Petition No.: II-2001-05, p. 6)

fuel burning units. This data would include the maximum usages of fuels as would be needed for the Illinois EPA to appropriately set revised limitations for future usages of fuel.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* Absent information as described above, the 2022 application does not include the necessary information to allow a revised permit to be proposed for the Project, much less issued, that would eliminate or revise the current limitations in Permit 95010001 for the usage of fuel by Project-affected fuel burning units.

Discussion

The justification provided in the 2022 application for revisions to Permit 95010001 to eliminate or revise limits on usage of fuel and, presumably, emissions by Project-affected fuel burning units is not adequate. Although this application indicates that the revised permit should not contain the limits for usage of natural gas and BFG currently set by Permit 95010001, it does not propose any new limits in their place.

> USS Granite City is also requesting revision/elimination of gaseous fuel usage limits for project-affected combustion units. In 2015, USS Granite City shutdown its by-product coke oven batteries. This eliminated the ability to use coke oven gas ("COG") as a fuel at the mill. In addition, ten of the twelve boilers at the time of the Project in 1996 have been retired. These actions have greatly reduced the emissions from fuel combustion in project-affected emissions units and obviate the need to preserve limits to restrict PTE of the remaining units.
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> 2022 application, Section 2.2.3, p. 2-4.

This rationale is deficient because it does not consider that the 2022 application also requests that the revised permit address an increase in the usage of natural gas at the facility as a consequence of the shutdown of the by-product coke oven batteries. While the limits for fuel usage and emissions currently in Permit 95010001 may no longer be relevant, as generally addressed above,[38] this does not mean that other limits for fuel usage and emissions are not appropriate. In this regard, the 2022 application does not show that new limits for fuel usage and emissions would not now be needed and those limits should address fuel burning units other than the Project-affected units currently addressed by the permit. In this regard, limits for usage of fuels and emissions should not extend to Boilers 1 through 10, as they are no longer in operation, having been shut down a number of years before the coke oven batteries were shutdown. As the four slab reheat furnaces at the facility were affected by the elimination of COG, new limits may be needed that also extend to these furnaces. It may also be appropriate for the cogeneration boiler to be addressed by the new limits as this boiler began operation several years before the by-product coke oven batteries at the facility were shutdown.

[38] It is noteworthy that the 2022 application does not address what an appropriate limit for usage of COG would have been in Permit 95010001 if the permit had originally addressed use of COG by Project-affected fuel burning units. In the absence of such information, it is unclear how the shutdown of the two by-product coke ovens at the facility and elimination of COG led to decreases in NOx emissions relative to the limits for NOx emissions of fuel-burning units set by Permit 95010001.

8. THE APPLICATION DOES NOT SHOW THAT EMISSION FACTORS THAT ARE PROPOSED AS PRESCRIBED FACTORS FOR CERTAIN UNITS WOULD BE REPRESENTATIVE

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 9.1(d), 39(a)*, 39(a)**, 39.5(5)(i), 39.5(7)(a), 39.5(10)(a)(iv) and 39.5(13)(c)(v).

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.160(a), 203.123, 203.128, 204.400 and 204.560.

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* Relative to the revisions to Permit 95010001 that are requested to establish certain "prescribed emission factors," the 2022 application does not include information justifying the future use of such proposed factors for the purpose of determining compliance with the revised limitations for the emissions of the project that are requested. In particular, the 2022 application does not include information showing that the proposed factors should be considered representative, accurate and appropriate. For example, for the uncaptured emissions of particulate of the BOFs, which occur through the roof monitor and, possibly, other openings in the BOF shop building, the application does not include any explanation for the emission factors that are proposed as prescribed emission factors. These factors are lower than the factors that were used for the calculations in the application for the baseline emissions of uncaptured particulate from the BOFs. This is generally reasonable as improvements have been made that have improved capture and control of the particulate emissions of the BOFs and should lower uncaptured emissions. Notably, a baghouse control system has been installed to improve control of emissions from charging and tapping the BOFs. However, the 2022 application does not explain how the proposed prescribed factors were developed. It also does not lay out the practices for control of particulate emissions of the BOFs that would accompany the proposed factors.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* Absent information as described above, the 2022 application does not include the necessary information to allow a revised permit to be proposed for the Project, much less issued, that would determine future emissions of the subject emission units and emission points based on the factors proposed in the 2022 application. The 2022 application does not show that the proposed prescribed factors would appropriately be relied upon for the purpose of enforceably limiting the future emissions of the emission units and emission points for which they are proposed.

Discussion

To calculate baseline emissions of certain emission units for which emission testing is not feasible or practical, the 2022 application necessarily relies on use of emission factors that are not based on source-specific emissions testing. Likewise, for the ongoing determination of the emissions of these units, the application requests that revised Permit 95010001 "prescribe" or specify the emission factors that are to be used. As explained in the 2022 application, where a permit relies on a limit on annual emissions or an "annual emission cap" to restrict potential emissions, USEPA policy and precedent provide that:

> Where the permit prescribes an emission factor to be used in conjunction with operational data in demonstrating compliance [with an annual emission cap], the permitting authority should describe the basis for its determination that the emission factor is representative.
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> 2022 application, Section 3, p. 3

This summary of relevant USEPA policy in the 2022 application is consistent with the statements made by the EAB and the Administrator of USEPA in various orders responding to petitions that request it object to Title V permits or, in Illinois, CAAPP permits), issued by a permitting authority. In its decision in *Shell Offshore, Inc.*, the EAB also considered the use of prescribed emission factors in the permit that was appealed. The EAB did not object to this practice. It found that the use of prescribed emission factors may be appropriate for a permit to prescribe use of specific emission factors published by USEPA in its *Compilation of Air Pollutant Emission Factors* (AP-42) for certain emission units for the purpose of determining emissions for purposes of compliance with annual emission limits set by the permit.[39]

> The Region explained in the record its rationale, based on the Region's technical expertise and applied in certain limited circumstances, for supplementing source-specific emission factors derived for most of the emission units or groups of emission units with either AP-42 emission factors, or factors derived from source test data Shell submitted to the Region in support of two separate, previously OCS [Outer Continental Shelf] PSD permits authorizing Shell to conduct exploratory activities in the Chukchi and Beaufort Seas using the *Discover* drillship.
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> USEPA, Environmental Appeals Board, *In Re Shell Offshore, Inc.*, OCS Appeals Nos. 11-05, 11-06 & 11-07, Order Denying Petitions for Review, Decided March 30, 2013.

For US Steel, Granite City Works, the USEPA specifically addressed the use of emission factors for determining compliance with emission limits in an order of December 3, 2012. Note that relative to prescribed emission factors, the USEPA's finding, as is provided below, should be

[39] The EAB did observe that it is preferable that compliance with emission limits set by a permit be determined using source-specific emission factors, as would be developed by emissions testing required by the permit. The EAB did not address prescribed emission factors from sources other than AP-42 since the permit that was appealed only prescribed use of emission factor from AP-42. Given the general nature and limited scope of AP-42, the EAB's decision should not be interpreted to preclude use of emissions factors from source other than AP-42. There are emission units and pollutants for which use of prescribed emissions is appropriate for which emission factors are not present in AP-42 or better emission factors are available from other sources.

considered *dicta*. This is because the permit that was the subject of the appeal did not provide for use of prescribed emission factors. In addition, as the order addresses the possibility of using of prescribed emission factors in terms of the actions that the Illinois EPA would need to take when issuing a permit that prescribed emission factors, the order serves to identify the underlying information that a source must provide in an application if it seeks a permit that would provide for use of prescribed emission factors is sought. The Illinois EPA would then be responsible for assuring that the emission factors that are prescribed would be appropriate and sufficient for compliance or noncompliance with the associated emission limits to be reasonably determined.[40]

> …IEPA [Illinois EPA] must include in the permit itself the monitoring methodology for determining compliance with these limits [emission factor limits and annual emission limits]. If using emission factors, IEPA must propose the actual emission factors in the permit or supporting permit record, and provide supporting documentation for the accuracy and appropriateness of these emission factors, such as historical source test data or other available information. If source test data are not readily available for a specific emission unit, as IEPA asserts, other sources of emission factors (including published literature and material and energy balances) must be reviewed and cited for acceptable emission factors before issuing the permit.
>
> USEPA, Order Responding to Petitioner's Request that the Administrator Object to Issuance of State Operating Permit, Petition Number V-2011-2, *In the Matter of United States Steel Corporation – Granite City Works, CAAPP Permit No. 96030056*, Petition Number V-2011-2, dated December 3, 2012, p. 12.

Roof Monitor on the Basic Oxygen Furnace Shop – Particulate Emissions:

The 2022 application does not include support for the particulate emission factors that are proposed as prescribed factors for the roof monitor on the basic oxygen furnace shop (i.e., the uncaptured emissions from these furnaces). The application does include support for the baseline

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[40] In an order concerning a Title V permit issued by the Texas Commission on Environmental Quality (TCEQ), the Administrator of USEPA stated the following when addressing the use of emission factors in the permit:

> …Moreover, the justification provided by a permittee in a permit application should not substitute for the judgment of the permitting authority (TCEQ) with responsibility for ensuring that a Title V permit contains sufficient monitoring to ensure compliance. If TCEQ wishes to adopt and incorporate an applicant's technical justification for specific monitoring into the current Title V permit record, it must, at minimum, identify specifically where such a justification is to be found (just as it would be required to do it if [sic]wished to incorporate by reference a requirement located elsewhere.)
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> USEPA, Administrator, Order Responding to Petition Requesting Objection to the Issuance of Title V Operating Permit, Petition No. VI-2017-6, *In the Matter of BP Amoco Chemical Company, Texas City Chemical Plant, Galveston County, Texas, Permit No. 01513*, dated July 20, 2021, p. 18.

particulate emission rates for the roof monitor on the basic oxygen furnace shop.[41, 42] However, the permitting of the Project in 1996 relied upon various changes that were made to improve capture and control of emissions of particulate from the basic oxygen furnaces and decrease the uncaptured emissions of particulate. For example, a fourth section was added to the ESP in 1995, increasing the volume of air that it could handle. As such, the baseline particulate emission rates of the Project are not representative of future emissions with the Project. Moreover, the emission factors actually proposed in Section 5.5.2.2 in the 2022 application are lower than emission factor limits now contained in Table 2 of Permit 95010001 for the roof monitor on the basic oxygen furnace shop. For PM, an emission factor of 0.0296 ~~0.01986~~ pounds/ton is proposed as a prescribed factor, compared to the current emission factor limit of 0.0987 pounds/ton; for filterable PM_{10}, an emission factor of 0.0198 ~~0.0296~~ pounds/ton is proposed, compared to the current emission factor limit of 0.06614 pounds/ton. The 2022 application does not show that the emission factors for the roof monitor on the basic oxygen furnace shop that are proposed as prescribed emission factors in Section 5.5.2.2 of the application are representative.[43]

Caster Mold, Slab Cutoff/Ripping Processes in Continuous Casting:
For the caster mold, slab ripping and slab ripping processes on the continuous casting lines, prescribed emission factors are proposed in Section 5.5.3 of the 2022 application that are identical to the baseline particulate emission rates for these emission units as generally discussed in Section

[41] The baseline emission rates for the roof monitor are based on emissions factors from AP-42 for uncontrolled emission with application of 90 and 99 percent capture efficiencies for the refining process and the charging and tapping processes, respectively, being provided by the ESP control system on the furnaces in the baseline period before 1996 (2022 application, Section 5.5.2.2). While the application cites to Appendix C in the original application for the Project as support for these values for capture efficiency, this appendix only uses these assumed values of capture efficiency when calculating baseline emission rates for the Project. This appendix does not actually provide technical support for these values for capture efficiency being representative of the levels of capture efficiency that were achieved for particulate emissions of the basic oxygen furnaces in the baseline period for the Project. Appendix C also does not provide support for the higher levels of capture efficiency (95% and 99.9%) that it uses for operation and emissions for the basic oxygen furnaces with the Project.

[42] It should generally be noted that the sections of the 2022 application that provide the explanation or basis for the emission factors used in the application are not the sections in which prescribed emission factors are proposed for certain units. The basis for the different emission factors is typically provided earlier in the application in the sections of the application where baseline emission rates are addressed. For example, the particulate emission rates or factors for the roof monitor on the blast furnace casthouse are discussed in Section 5.2.3.3 (2022 application, p. 5-3); the proposed prescribed emission factors for this emission point, which are the same numerically, are provided later in Section 5.5.1.2 without further discussion (2022 application, p. 5-14 and 5-15).

[43] The emission factors that the 2022 application proposes to be prescribed for particulate emissions from the roof monitor on the basic oxygen furnaces may be appropriate at the present time given the installation of a baghouse control system on these furnaces. Nonetheless, for a revised permit to be issued that prescribes emission factors for emission from the roof monitor, the application must show that those factors are representative with the emission control measures that are required by the permit. It must also be recognized that those prescribed factors would not be representative of emissions before the new baghouse system was installed and operation of this system was required. As such, particulate emissions factors that are representative of particulate emissions circa 1996, before installation of the baghouse system on the furnaces, should be used in the revised netting analyses for PM and PM_{10}.

5.2.2.11, 5.2.2.13 and 5.2.2.14 of the application. In these sections, the application explained that these emission factors reflect emission factors from a report prepared by the Illinois EPA in 1991, i.e., "Illinois EPA 1991 EIS PM/PM_{10}." This is not sufficient to show that the emission factors that are proposed as prescribed factors are representative. In this regard, the statement that these factors were taken from a historic report prepared by the Illinois EPA does not show that this report included information showing why these factors should be considered representative and can be prescribed by a revised permit.

Mag-Lime Silo:

For the Mag-Lime Silo, a prescribed emission rate of 0.009 pounds/hour is proposed (2022 application, Section 5.5.4.2). As explained in the application, this unit, which stores the reagent used in desulfurization of iron in the basic oxygen furnace shop, was overlooked in the original permitting of the Project (2022 application, Section 5.4.4 and Footnote 34, p. 5-16 and 5-17). US Steel elected not to address its baseline emissions in the revised netting analyses for PM and PM_{10} because emissions are low, i.e., potential annual emissions less than 0.1 tons. However, the application does not include calculations explaining how US Steel determined that potential particulate emissions of this unit are less than 0.1 tons/year, much less information showing that a prescribed emission rate of 0.009 pounds/hour should be considered representative of the emissions of this unit.[44]

[44] The application also does not explain how US Steel determined that the potential annual particulate emissions of the Mag-Lime Silo are less than 0.1 tons. In this regard, the application does not include calculations that identify any assumptions about operation of this unit or the control of its emissions made by US Steel when calculating the potential emissions of this unit. For example, for particulate matter, was the outlet emission rate of the filter that is part of this unit assumed to be less than the regulatory limit of 0.03 grains per dry standard cubic foot pursuant to 35 IAC 212.308 and 212.313?

9. FOR THE ROOF MONITOR OF THE CASTHOUSE, THE APPLICATION DOES NOT SHOW THAT THE METHODOLOGY THAT IS PROPOSED TO BE PRESCRIBED FOR THE DETERMINATION OF NOx AND VOM EMISSIONS WOULD BE REPRESENTATIVE

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 9.1(d), 39(a)*, 39(a)**, 39(a)***, 39.5(5)(i), 39.5(7)(a). 39.5(10)(a)(iv) and 39.5(13)(c)(v).

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.160(a), 203.123, 203.128, 204.400 and 204.560.

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* Relative to the revision to Permit 95010001 that is requested to establish a certain "prescribed emission determination methodology" for the uncaptured NOx and VOM emissions of the blast furnace casthouse, the 2022 application does not include information justifying the future use of such proposed methodology for the purpose of determining compliance with the revised limitations for the NOx and VOM emissions of the blast furnace casthouse that are requested. In particular, the 2022 application does not include information showing that the proposed methodology should be considered representative, accurate and appropriate. In this regard, the 2022 application does not show that changes in the levels of captured NOx and VOM emissions, as measured by emission testing, would be due to actual changes in the overall level of NOx emissions from the casthouse rather than other causes. For example, changes in the levels of measured NOx or VOM emissions could be due to changes in the manner of operation of either the iron making/tapping processes or the baghouse control systems as they function to capture NOx and VOM emissions. Changes in the levels of measured emissions could also be due to the variation in the results of emission testing that may be present with the applicable reference test methods.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* Absent information as described above, the 2022 application does not include the necessary information to allow a revised permit to be proposed for the Project, much less issued, that would determine future uncaptured NOx and VOM emissions of the blast furnace casthouse based on the methodology proposed in the 2022 application. The 2022 application does not show that the proposed prescribed methodology would appropriately be relied upon for the purpose of addressing the future uncaptured NOx and VOM emissions of the blast furnace casthouse.

Discussion

For the NOx and VOM emissions of the roof monitor on the casthouse on the blast furnaces (i.e., uncaptured emissions, which do not pass through a control device), the 2022 application proposes a prescribed emission calculation methodology that involves the results of emission testing for the main baghouse for the casthouse and an assumed capture efficiency of 95 percent.[45] For example, for NOx emissions from the roof monitor, the application requests that,

> Prescribed emissions factors consistent with the approach described in Section 3 [Discussion of Permit Conditions Used to Restrict PTE] are provided herein. USS Granite City is proposing a prescribed emissions calculation methodology for NOx emissions from the blast furnace casthouse roof monitor based on application of 95% capture emissions to the NOx stack test result for the blast furnace casthouse baghouse.
>
> 2022 application, Section 6.5.1.2, Prescribed Emission Factors for Blast Furnaces Operations, p 6-9.

The application does not show that the "proposed methodology" would result in NOx and VOM emissions rates for the roof monitor that would be representative. In this regard, the proposed methodology would yield emission rates for the roof monitor that would be related directly to the measured emissions of the main baghouse on the casthouse. However, it would not address the effect of variation in capture efficiency on emissions. That is, with the proposed methodology, if emissions from the baghouse measured by a particular test were "lower," the calculated emission rate of the roof monitor would also be lower. The methodology would not address a situation in which the emissions measured by testing are lower because the capture efficiency of the baghouse system during testing was also lower. In this situation, there would actually be more emissions through the roof monitor. As such, unlike specific emission rates for NOx and VOM that would be prescribed in a revised permit, the "proposed methodology" would not address the NOx and VOM emissions from the roof monitor in a way that can reasonably be considered to be representative on an ongoing basis.[46, 47]

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[45] With the proposed methodology, the NOx or VOM emission rate for the uncaptured emissions of the casthouse would be derived from the emission rate of the main baghouse measured by periodic testing using the following formula:

[(Measured rate of the baghouse (lbs/ton) ÷ 0.95) x 0.05] = Calculated rate for the monitor (lbs/ton)

[46] This issue would not be present with an appropriate prescribed emission factor. As such, a factor would not change based on the results of periodic testing, the factor could be reviewed when processing the application to confirm that it was conservatively developed so as to be representative on an ongoing basis.

[47] Section 7.5.1.2 of the 2022 application, which addresses the proposed calculation methodology for the VOM emissions from the roof monitor on the casthouse, erroneously refers to the results of emissions testing of the main baghouse system on the casthouse for NOx rather than testing for VOM.

10. THE APPLICATION DOES NOT INCLUDE NECESSARY SUPPORT FOR THE EMISSION FACTORS THAT ARE PROPOSED AS PRESCRIBED FACTORS FOR CERTAIN UNITS.

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 9.1(d), 39(a)*, 39(a)**, 39.5(5)(i), 39.5(7)(a), 39.5(10(a)(iv) and 39.5(13)(c)(v).

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.160(a), 203.123, 203.128, 204.400 and 204.560.

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* Relative to the revisions to Permit 95010001 that are requested to establish certain "prescribed emission factors" as specifically proposed by the 2022 application, the application does not include information justifying the future use of such proposed factors for the purpose of determining compliance with the revised limitations for the emissions of the Project-affected units that are requested. In particular, as the proposed factors are derived from emissions factors developed by USEPA, the 2022 application does not include information showing that the factors that were derived and are now proposed should be considered representative, accurate and appropriate. For example, for the blast furnace casthouse, the application proposes a prescribed emission factors for uncaptured emissions of particulate that are based on factors in USEPA's *Compilation of Air Pollutant Emission Factors*, AP-42, and achievement of at least 95 percent capture efficiency by the particulate control systems on the casthouse (i.e., 5 percent of the particulate emission being uncaptured). However, as support for reliance on these systems achieving at least 95 percent capture efficiency, the application only refers to a single memorandum by USEPA staff and a consultant.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* Absent information as described above, the 2022 application does not include necessary information to allow a revised permit to be proposed for the Project, much less issued, that would determine future emissions of the subject emission units and emission points based on the factors proposed in the application. The application does not show that the proposed prescribed factors would appropriately be relied upon for the purpose of enforceably limiting the future emissions of the emission units and emission points for which they are proposed.

Discussion

The 2022 application does not include relevant supporting information for certain emission factors used in the application, as follows. Absent this information the Illinois EPA cannot assess

whether the prescribed emission factors proposed for these units should be considered representative.

Blast Furnace Casthouse Roof Monitor:
The prescribed particulate emission factors proposed for the roof monitor on the blast furnace casthouse (i.e., the uncaptured emissions from the casthouse) are identical to the baseline emission rates. These rates are based on emission factors from AP-42 for uncontrolled emissions with application of a 95 percent capture efficiency for the baghouse control systems on the casthouse. The application only references a single memorandum from 2019 by various USEPA staff and a consultant as support for achievement of 95 percent capture efficiency (2022 application, Section 5.2.3). Further support is needed for a prescribed emission factor based on achievement of 95 percent capture.

Slag Pits:
For particulate emissions from quenching of slag, the 2022 application does not include a copy of the "EPA assessment" that is the basis of the emission factors and material showing how the selected emission factors were derived from this assessment. For emissions from transfer of slag, the application does not include a copy of the calculations by which the emission factors were developed from the formulas provided in AP-42, Section 13.2.4. The application also does not address whether the emission factors rely on control by the application of water or the presence of residual moisture and, if so, the basis for the assumed levels of control efficiency. (2022 application, Section 5.2.2.5, p 5-4).

Iron Pellet Screen:
For the Iron Pellet Screen, the proposed prescribed emission factor for PM and PM_{10} emissions is identical to the baseline emission rates (2022 application, Section 5.2.2.16). While the emission factor for uncontrolled emissions for screening of crushed stone in Table 11-19.2-2 in AP-42 is identified as the basis of this emission rate, a control efficiency of 85 percent is applied, reducing the factor that is actually used to 15 percent of the cited AP-42 factor. The application does not describe the means by which the particulate emissions of this screen are controlled or reduced to show that 85 percent control of particulate emissions is achieved for the Iron Pellet Screen.[48]
In addition, AP-42 lists two emission factors for screening of crushed stone, one for PM and one for PM_{10}. The emission factor for PM is about three times the factor for PM_{10} (0.025 pounds/ton ÷ 0.0087 pounds/ton = 2.87, ~ 3). The 2022 application does not show that for screening of iron ore pellets, an emission factor that was developed for PM_{10} is directly transferable to PM emissions.

[48] The CAAPP permit, Condition 7.4.2 indicates that the Iron Pellet Screen is not served by emission control equipment.

11. THE DETERMINATIONS OF PARTICULATE EMISSIONS FROM HANDLING OF COKE, IRON PELLETS AND LIMESTONE ARE NOT SUPPORTED AND CANNOT BE CONFIRMED

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 9.1(d), 39(a)*, 39(a)** and 39(a)***.

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.152*,35 IAC 201.160(a).

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* For handling of coke, iron pellets and limestone, the baseline emissions of particulate matter (PM) and particulate matter-10 (PM-10) provided in the 2022 application are both 17.2 tons/year. The information for baseline emissions from handling these materials is not accompanied by supporting information. The application does not explicitly list the various units whose emissions are being addressed and describe the nature of the various units relative to their emissions of PM and PM-10. Data is not provided for the annual amounts of various materials that were handled by these units. Data is also not provided for the emission factors used to calculate annual emissions, the sources or basis of those factors, and why those factors should be considered representative of the emissions of the various types of units being addressed.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* Absent information as described above, the 2022 application does not include the necessary information to allow a revised permit to be proposed for the Project, much less issued, that would restrict future PM and PM-10 emissions of the subject units. The issuance of a revised permit with limitations for the future emissions of these units that are practically enforceable necessarily requires that the application include supporting information as discussed above. For example, the Illinois EPA needs information on how baseline emissions were determined to confirm that the baseline emissions were reasonably determined. This information is also needed to determine what limitations on emissions should be set in the revised permit and if the permit should require any specific practices to assure emissions are controlled to levels relied upon in the calculations of baseline emissions. Finally, this information is needed so appropriate permit conditions can be developed setting forth how compliance with the limitations is to be demonstrated.

Discussion

With regard to baseline particulate emissions, the determination of baseline emissions from handling of coke, iron pellets and limestone provided in the revised netting analysis cannot be independently confirmed. In this regard, the 2022 application does not provide needed

supporting information for the "corrected" determinations of baseline particulate emissions of these operations as it is not accompanied by detailed calculations for the emissions from handling each material. (2022 application, Table 5-5. "Pre-project Actual Emissions and Summary of Proposed Changes to Pre-Project PM Emissions Factors for Affected Emission Units" and Table 5-6, "Pre-project Actual Emissions and Summary of Proposed Changes to Pre-Project PM_{10} Emissions Factors for Affected Emission Units.")[49]

With regard to emissions with the Project, the 2022 application does not include information for particulate emissions from handling of coke, iron pellets and limestone. Since the by-product coke oven batteries were not shut down until 2015, emission information is needed for handling of coal for the period of operation with the Project before the batteries were shut down. Likewise for coke, emission information is needed to address handling of coke before US Steel constructed the conveyor system to receive coke directly from the heat recovery coke production facility built by Gateway.[50]

[49] Tables 5-5 and 5-6 do refer to "Table F-3 of the 1995 application" for these material handling operations. A copy of this table is provided in Appendix B of the 2022 application. However, this table only appears to address PM_{10} emissions, for which it provides annual emissions in tons/year. This table does not include calculations and background information showing how the annual emissions of PM_{10} were determined. Finally, the data for annual emissions of material handling operations appears to rely on the "PM10 SIP" requiring a 90 percent reduction from uncontrolled emissions without providing any support for this assumption.

[50] As this new system was constructed as part of a different project, i.e., the construction of the Gateway facility, rather than the Production Increase Project, US Steel should not address emissions that are specifically associated with this new system.

12. THE REQUESTED CHANGES TO THE GROUPING OF UNITS IN THE PERMIT FOR CONSISTENCY WITH THE GROUPINGS OF UNITS IN THE CAAPP PERMIT WOULD NOT ADDRESS ALL DIFFERENCES IN THE GROUPINGS OF UNITS

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 39(a)*, 39(a)**, 39(a)***, 39.5(5)(i), 39.5(7)(a), 39.5(10)(a)(iv) and 39.5(13)(c)(v).

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.152* and 201.160(a).

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* The 2022 application requests certain changes to Permit 95010001 because the areas or sections of the CAAPP permit for the Granite City Works, Permit 96030056, in which certain emission units are addressed are not the same as those in Permit 95010001. Most notably, in Permit 95010001, discrete material handling and processing operations are addressed with the units with which they are associated. For example, handling of fluxes and alloy materials for the BOFs is addressed with the provisions of the permit for the BOF Shop. In the CAAPP Permit, handling of fluxes and alloy materials for the BOFs and other discrete material handling and processing operations are addressed in a separate section of the permit (Section 7.1) rather than with Blast Furnace Operations (Section 7.4), the BOF Shop (Section 7.5), or Continuous Casting Operations (Section 7.6). While it is reasonable for Permit 95010001 to be revised so that the placement of units in this permit is the same as their placement in the CAAPP permit, several concerns are posed by the specific changes to Permit 95010001 that are requested to accomplish this. In particular, the 2022 application requests that Permit 95010001 be revised to address the "Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy)" with other ancillary operations in the BOF Shop, rather than with the Continuous Casting Operations. This change would be appropriate as these units would be placed with other units that are subject to the Iron and Steel NESHAP, 40 CFR 63 Subpart FFFF, as they are BOF Shop ancillary operations. However, the application also requests that the permit be revised to refer to these units as "Baghouse 2 for Argon Stirring and Ladle Metallurgy Facility." This change would not be appropriate as it would refer to the baghouse serving these units and its emissions rather than to the units themselves and their emissions. The application also does not request any changes to Permit 95010001 for the "Deslagging Station and Material HS [Handling System]." In the CAAPP permit, these units are currently addressed twice, both with the discrete material handling operations (Section 7.1) and with continuous casting operations (Section 7.6). More importantly, the placement of these units in Permit 95010001 should be directed by the emission standards that apply to these units. These units would be appropriately addressed with BOF Shop Operations (Section 7.5) as they entail either a "skimming station" or "ladle metallurgy" for purposes of the Iron and Steel NESHAP. Finally, for "Ladle Drying/Preheating," the application does not request revisions to Permit 95010001 although the CAAPP permit addresses these emission units both with BOF Shop Operations (Section 7.5) and with other Project-affected fuel burning units (Condition 5.6.2(a)(ii)). In Permit 95010001, these units are currently only addressed as Project-affected fuel burning units.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* As related to the location in permits where certain emission units are addressed, the 2022 application does not request all revisions that are known to be appropriate to Permit 95010001, and, by means of Integrated Processing of the revisions to Permit 95010001, are appropriate to the CAAPP permit for the facility. For certain units, the application would not address differences in where the units are addressed by the two permits and the related emission standards and requirements that may apply to those units. As related to the naming of units, the Applicant requests a change that is improper as well as unnecessary. As such, if Permit 95010001 were revised with the placement of units in the permit shifted as requested by the 2022 application, it would preclude Integrated Processing of the revised permit. This is because the revision of Permit 95010001 would otherwise allow discrepancies or errors in the provisions for certain units in the current CAAPP permit, which have now been identified and are within the potential scope of the revisions to Permit 95010001, to be perpetuated by the amendments to the CAAPP permit that would be authorized.

Discussion

As addressed in Section 2.2.2 of the 2022 application, US Steel generally requests changes to the organization of Permit 95010001 because the areas or sections of the CAAPP permit in which certain units are addressed are different than those in Permit 95010001. Most notably, in Permit 95010001, discrete material handling and processing operations are addressed with either the blast furnace operations, operations in the basic oxygen furnace shop or the continuous casting operations, based upon the area with which they were considered to be associated. In the CAAPP permit, these discrete material handling and processing operations are generally addressed in a separate section of the permit, Section 7.1, "Material Handling and Processing Operations." In addition, in the CAAPP permit, the "Argon Stirring Station and Material Handling Tripper" was addressed with units in the basic oxygen furnace shop in Section 7.5 of the CAAPP permit rather than with the continuous casting operations as in Permit 95010001.

While it is reasonable for there to be consistency in the groupings or categorization of emission units in Permit 95010001 and the CAAPP permit, as generally requested by US Steel, several concerns are posed, as discussed below, by the specific changes to Permit 95010001 that have been requested.

Requested Changes for the "Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy)":

As explained in Section 11.1.2 of the 2022 application, US Steel requests that the "Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy)" now be addressed in Permit 950100001 with operations in the Basic Oxygen Furnace Shop. The application also requests that this unit be identified as "Baghouse 2 for Argon Stirring and Ladle Metallurgy Facility." However, the application does not actually identify the specific units that would be addressed by the proposed new term. In this regard, the application is not accompanied by an itemized list of the equipment and activities that would be covered by this new term or a diagram that identifies this equipment and activities. US Steel's request also does not explain how the requested

revision to Permit 95010001 would do what has generally been requested as the proposed new term would refer to a "Material Handling Tripper." As the 2022 application requests changes to terminology in Permit 95010001, the changes should act to better identify the emission units that would be addressed, improving the specificity and clarity of the revised permit.[51, 52]

Absence of A Request for Revisions for the "Deslagging Station and Material HS":
The 2022 application does not request any revisions to Permit 95010001 with respect to the Deslagging Station and Material HS (Handling System).[53] These emission units are currently addressed in Permit 95010001 with continuous casting operations (Permit 95010001, Condition 20 and Table 3). In the CAAPP permit, a "Steel Deslagging Station" is identified as one of the continuous casting operations (CAAPP permit, Condition 7.6.2(a)).[54] The 2022 application does not explain why this steel deslagging operation should not appropriately be categorized as slag skimming and addressed with the other slag skimming operations in the basic oxygen furnace shop. In this regard, for the argon stirring station, US Steel does explain in Section 11.1.2 of the 2022 application that this station should be addressed with operations in the basic oxygen furnace shop rather than with continuous casting operations. This is because this station is a "BOPF shop ancillary operation" for purpose of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Manufacturing Facilities, 40 CFR 63 Subpart FFFFF (2022 application, Section 11.1.2). US Steel does not explain why the current placement in Permit 95010001 of the steel deslagging station with continuous casting is appropriate and this station should not also be addressed with other BOPF shop ancillary operations. Alternatively, US Steel does not request that this station be addressed with other

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[51] For example, the proposed new term would not make clear that the basic oxygen furnace shop actually has two ladle stirring stations and one ladle metallurgy furnace, all served by Baghouse 2.

[52] The requested change to the terminology for these emission unit(s) is also problematic as it would refer to a control device, Baghouse 2, rather than to the equipment or activities that generate emissions. Applied literally, the proposed term would only address captured emissions; it would not address the uncaptured emissions, which elude capture for control by the baghouse.

[53] For example, in Section 5.2, the 2022 application does not identify any updates or revisions to the pre-project actual emissions of the steel deslagging station and associated material handling system. Likewise, Appendix B – Emission Calculations does not identify any changes from the 1996 netting analyses that involve these units (Appendix B – Emission Calculations, USS Granite City – 1996 Production Increase Project: Revised PM PSD Net Emissions Increase Analysis and Revised PM10 PSD Net Emissions Increase Analysis).

[54] The presence of a deslagging station that is physically located in the continuous casting building is indicated in the pending application for renewal of the CAAPP permit. This application indicates that the particulate emissions of this station are controlled.

> Deslagging Station:
> Molten steel from the BOF is transferred directly from the BOFs to the continuous casting building. The first operation carried out in this building is the skimming of slag from the surface of the molten steel. Slag removed by this operation is skimmed into slag pots for disposal. Baghouse #1 is used to control emissions from this process.
>
> CAAPP Renewal Application, Appendix D: Process Descriptions, Section 7.6 Continuous Casting, Deslagging Station, p. D-56.

BOPF shop ancillary operations.[55] Slag skimming is one of the operations that 40 CFR 63.7852 defines as being "Basic oxygen process furnace shop ancillary operations."[56, 57]

For the "Deslagging Station and Material HS," the 2022 application also does not request revisions to Permit 95010001 as the CAAPP permit currently limits particulate emissions of this operation twice, once as a continuous casting operation and again as a material handling operation. In this regard, the CAAPP permit limits the particulate emissions of a "Deslagging Station and associated Material Handling System (Condition 7.6.6(a). As indicated by a reference in this condition, the CAAPP permit also limits emissions of a "Material HS and Deslagging Station" (Condition 7.1.6(b)(i)) in Section 7.1 of the CAAPP permit, where discrete material handling and processing operations are addressed. The 2022 application does not request revisions to Permit 95010001 to facilitate amendment of the CAAPP permit to appropriately address the emissions of this deslagging station and the associated material handling system. In the absence of such revisions, the current CAAPP permit would suggest that the revised netting analyses for particulate should address the emissions of these units twice, once as deslagging and once as material handling. On the other hand, if Permit 95010001 would address emissions of these units in this way, the consolidated emission limits for continuous casting and discrete material handling operations would be inappropriate as emissions of the deslagging station and the associated material handling system would be accounted for twice.[58]

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[55] The proper categorization of this steel deslagging station is important when considering US Steel's request for consolidation of the emission limits currently set by Permit 95010001. As a general matter, any new, "consolidated" limits set by a revised permit must be developed to apply to sensible groupings of units. The groupings of units should facilitate identification in the revised permit of the regulatory requirements that apply to various units. This is especially true as the consolidated limits would rely on certain applicable regulatory requirements, e.g., the work practices and operational monitoring requirements under 40 CFR 63 CFR Subpart FFFFF, to assure consistent operation of emission units so as to keep short-term emissions at or below the established emission rates for the units.

[56] For this steel deslagging station, there is a potential compliance issue relative to the NESHAP, 40 CFR 63 Subpart FFFFF. The CAAPP permit indicates that the emissions of this station are not controlled (CAAPP permit, Condition 7.6.2). On the other hand, if its emissions are controlled by Baghouse 2, the direct applicability of the NESHAP to this station becomes a minor matter. This is because Baghouse 2 is directly subject to requirements of 40 CFR 63 Subpart FFFFF as it controls emissions from "ladle metallurgy." Ladle metallurgy is defined by 40 CFR 63.7852 as "… a secondary steelmaking process that is performed typically in a ladle after initial refining in a basic oxygen furnace to adjust or amend the chemical and/or mechanical properties of steel. This definition does not include vacuum degassing."

[57] It is also noteworthy that as the steel deslagging station is identified as a continuous casting operation by Permit 95010001, the permit applies 35 IAC 212.458(b)(8), which sets a limit of 5 percent, 6-minute average, for the opacity of emissions from the various continuous casting operations (Permit 95010001, Condition 19). However, Permit 95010001 omits the introductory language for this standard that provides that it does not apply to fugitive emissions. The introductory language is present in the CAAPP permit, which addresses the standards that apply to both fugitive and non-fugitive emissions of continuous casting operations (Permit 96030056, Conditions 7.6.3((b), (b)(ii) and (c)).

[58] If there was not actually a material handling system associated with the steel deslagging station, this could be readily addressed in the application for revisions of Permit 95010001. The application could acknowledge the error in the original application, as reflected in the permit that was issued, accompanied by an accurate diagram for the deslagging station as it existed in 1995 and as it now exists. In this regard,

For "Ladle Drying/Preheating," Absence of Any Request for Changes:
For "Ladle Drying/Preheating," the 2022 application does not request any changes to Permit 95010001 to maintain consistency with the approach to these units in the CAAPP permit. In Permit 95010001, these emission units are addressed with other Project-affected fuel burning units (Permit 95010001, Table 4, Certain Fuel Combustion Units). In the CAAPP permit, these units are addressed in Section 7.5 as "Basic Oxygen Processes" with other units in the Basic Oxygen Furnace Shop, as well as elsewhere in the permit with other Project-affected fuel burning units (e.g., Conditions 5.6.2((ii) and (iii)). In addition, the CAAPP permit sets a limit for the total NOx emissions of the BOF Shop (Condition 7.5.6(b)). In the absence of appropriate changes to the CAAPP permit, since the ladle drying/preheating takes place in the basic oxygen furnace shop, the limit for the NOx emissions of the basic oxygen furnace shop would apply to the sum of the NOx emissions of the basic oxygen furnaces and the ladle dryers/preheaters.

it is perhaps noteworthy that Permit 95010001 does not identify the material(s) that are handled by the material handling operations associated with the steel deslagging station.

13. THE 2022 APPLICATION DOES NOT REQUEST REVISIONS TO PERMIT 95010001 AND, INDIRECTLY, TO THE CAAPP PERMIT THAT WOULD ALSO BE NECESSARY AS THIS APPLICATION REQUESTS THAT THE REVISED PERMIT PRESCRIBE EMISSION FACTORS FOR CERTAIN UNITS

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 39(a)*, 39(a)**, 39(a)***, 39.5(5)(i), 39.5(7)(a), 39.5(10(a)(iv) and 39.5(13)(c)(v).

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.160(a).

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* The 2022 application does not request that the revision to Permit 95010001 add condition(s) generally setting forth how compliance with annual emission limitations set by Permit 95010001 is to be determined. While revisions are requested to establish certain "prescribed emission factors" and "prescribed emission determination methodology," the application does not request related revisions to Permit 95010001 to generally address the procedures that are to be followed when determining compliance with the limitations on annual emissions set by Permit 95010001. In this regard, it is noteworthy that, if it were not stayed, Condition 5.13 of the CAAPP permit for the Granite City Works, Permit 96030056, would address the general procedures for how compliance with limitations on annual emissions set by Permit 95010001 is to be determined. (That condition is currently stayed following an appeal to the Pollution Control Board, PCB 2013-53.) That condition would generally require that compliance with limitations on annual emission be determined using "appropriate emission factors." However, that condition does not address nor would it provide for use of prescribed factors or methodology to determine compliance with limitations on annual emissions, as is being requested by the 2022 application.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* If a revised version of Permit 95010001 were issued that provided for use of prescribed emission factors and methodology without condition(s) generally setting forth how compliance with limitations for annual emissions in Permit 95010001 is to be determined for emission units which the permit establishes prescribed emission factors and methodology (similar to CAAPP Condition 5.13 as it currently addresses use of appropriate emission factors), the limitations on annual emissions in the revised permit would not be enforceable as a practical matter. In this regard, at this time, CAAPP Condition 5.13, which addresses the use of appropriate emission factors in determining compliance with annual emission limitations, cannot be relied upon for this purpose. As well as currently being stayed, that condition only provides for use of appropriate emission factors. It does not provide for the use of prescribed emissions factors or prescribed emission determination methodologies. Moreover, in the absence of a request in the 2022 application for suitable condition(s) generally

addressing how compliance with limitations on annual emissions is to be determined, the application does not show that the revision to Permit 95010001 that is requested would meet the criteria for Integrated Processing, as the application also specifically requests. That is, the 2022 application would not show that the request for a revised permit would provide for compliance requirements substantially equivalent to those provided for by the CAAPP since the application does not request that the revised permit include requirements substantially equivalent to those that would have been provided by CAAPP Condition 5.13 if it were not stayed.

Discussion

The 2022 application does not request revisions to general provisions in Permit 95010001 that would enable revisions to the CAAPP permit for the Granite City Works, Permit 96030056, to be made by administrative amendment to allow prescribed emission factors to be used to determine ongoing emissions of certain emission units. In this regard, the CAAPP permit currently provides that "appropriate emission factors" shall be used when determining emissions to evaluate compliance with the emission limits for process units set by Permit 95010001. Permit 95010001 does not specify how emissions are to be determined for this purpose, much less specify that, for certain emission units and pollutants, prescribed emission factors are to be used.[59] Accordingly, the procedures to determine compliance with the emission limits set by Permit 95010001 were established in the CAAPP permit for the Granite City Works. This was necessary because the emission limits set by Permit 95010001 are applicable requirements under the CAAPP. The procedures that were established in the current CAAPP permit do not provide for the use of prescribed emission factors. Rather, the CAAPP permit generally requires US Steel to use "appropriate emission factors," i.e., emission factors that do not understate emissions, with the primary responsibility for the appropriateness of the factors that are used placed on US Steel.[60] The CAAPP permit also provides for recordkeeping and reporting by US Steel so that the Illinois EPA and interested parties can know and may review for the emission factors that are being used. However, the 2022 application simply requests revisions to Permit 95010001 to require use of prescribed emission factors for certain units. The application does not address the fact that the CAAPP permit currently does not accommodate the use of prescribed emission factors to calculate emissions but instead requires use of "appropriate emission factors."[61]

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[59] Condition 39(a) of Permit 95010001 did require "one-time testing" for various pollutant for certain emission units within 270 days of the date that this permit was initially issued. Additional time was subsequently provided to complete testing for the particulate emissions of a boiler when burning blast furnace gas. Unfortunately, the permit did not require testing of the NOx and VOM emissions of the BOFs. That testing was subsequently required by the CAAPP permit issued for the facility.

[60] This approach is consistent with a basic principle of the Title V permit program, as reflected in the CAAPP, that the responsibility for showing compliance with applicable air pollution control requirements for a facility lies with the source or Permittee for the facility, and not with the permitting authority.

[61] It should also be noted that in PCB 2013-53, the appeal that is pending before the Pollution Control Board for CAAPP permit 96030056, US Steel challenged Condition 5.13, General Procedures for Certain Permit Limits on Emissions. Condition 5.13 is relevant to the requested revisions of Permit 95010001 as it specifies procedures by which compliance is to be generally determined with the emission factor limits and annual emission limits set by Permit 95010001for process units. In addition to not proposing revisions to Permit 95010001 to accommodate use of prescribed emissions factors, the 2022 application

14. THE 2022 APPLICATION DOES NOT ADDRESS THE AMENDMENT TO THE CAAPP PERMIT AUTHORIZED BY CONSTRUCTION PERMIT 11050006, AS IS RELEVANT FOR THE REQUESTED INTEGRATED PROCESSING OF THE REVISION TO PERMIT 95010001

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 9.1(d), 39(a)*, 39(a)**, 39(a)***, 39.5(5)(i), 39.5(7)(a), 39.5(10)(a)(iv) and 39.5(13)(c)(v).

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.160(a).

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* The 2022 application was not accompanied by an application for an administrative amendment to incorporate changes to the CAAPP permit for the Granite City Works, Permit 96030056, that are authorized by Construction Permit 11050006, issued April 1, 2013. That construction permit addresses the baghouse control system installed on the BOFs to improve control of the particulate emissions of these furnaces from charging and tapping. As that construction permit was subject to Integrated Processing, it provides for certain changes to then be made in the CAAPP permit to the requirements for the BOFs as needed to accommodate the use of both this new baghouse control system and the existing electrostatic precipitator (ESP) system for control of emissions. However, US Steel has not initiated a revision to the CAAPP permit to incorporate changes as authorized by Permit 11050006 by submitting an application for an administrative amendment of the CAAPP permit.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* Absent the administrative amendment of the CAAPP permit as authorized by Construction Permit 11050006, as the 2022 application requests Integrated Processing, the application requests that revision of Permit 95010001 authorize changes to the current CAAPP permit. As such, the application effectively requests that separate from the revisions that are specifically requested by the application, the Illinois EPA reissue a CAAPP permit that, as related to the BOFs, contains provisions that are no longer accurate. For example, the description of the BOFs in CAAPP Conditions 7.5.1 and 7.5.2 does not indicate the use of the baghouse control system on the BOFs; only the ESP system is addressed. In addition, CAAPP Condition 7.5.5-1 does not address the corrective action procedures for baghouses required by 40 CFR 63.7800(b)(4). The addition of the baghouse system would be appropriately addressed in the CAAPP permit by the earlier amendment authorized by Construction Permit 11050006. As such, it would be contrary to the CAAPP to authorize further revisions to the CAAPP permit by means of Integrated Processing, as is requested by the 2022 application, without first making the revisions to the CAAPP permit authorized by Permit 11050006. Otherwise, the amendment of the

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does not address related revisions to Condition 5.13 of Permit 96030056 to potentially facilitate resolution of PCB 2013-53 as Condition 5.13 is challenged in this appeal.

CAAPP permit authorized by means of the revision of Permit 95010001 would be deficient. For the BOFs, as such a CAAPP permit, would not address certain applicable requirements, the permit would not contain provisions to assure compliance with all applicable requirements. It would also continue to include requirements that, as addressed by Permit 11050006, would have become obsolete with the addition of the baghouse control system.

Discussion

The 2022 application does not identify the version of the Clean Air Act Permit Program (CAAPP) permit for the Granite City Works, Permit 96030056, that would be eligible for administrative amendment pursuant to the Integrated Processing of the revisions to Permit 95010001 that are requested. This is relevant because the Illinois EPA has already issued a construction permit with Integrated Processing, i.e., Construction Permit 11050006, issued April 1, 2013. This permit addresses the addition of a baghouse system to improve control of particulate emissions of the basic oxygen furnaces from charging and tapping of the furnaces. With the addition of this new system, the furnaces have three points of emissions, i.e., the new baghouse, the historic ESP, and the roof monitor on the furnace shop.[62] Certain work practices that were required by Permit 95010001 for control of particulate emissions of the furnaces with only an ESP system conflicted with the use of the baghouse system or would no longer be appropriate when emissions were also controlled with the new system. To address the fact that these work practices were also present in the CAAPP permit for the facility, Construction Permit 11050006 was subject to Integrated Processing and allowed certain changes to be made to the CAAPP permit by administrative amendment.[63] This was intended to enable use of the new baghouse system for improved control of particulate emissions in compliance with the CAAPP permit without the need for a subsequent permit proceeding to modify the CAAPP permit. However, US Steel has not initiated action for the Illinois EPA to actually issue an amended CAAPP permit with changes as authorized by Permit 11050006.[64]

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[62] The new baghouse system required a construction permit because this system would affect the requirements that then existed for control of particulate emissions of the basic oxygen furnaces, including their emissions of lead. For purposes of NSR, the construction permit was issued based on the new baghouse system being a project that would reduce the emissions of particulate and lead from these furnaces rather than increase these emissions. The permit was also based on this new system not increasing the emissions of other pollutants from these furnaces. As such, the construction permit for the new baghouse system, Permit 11050006, did not set limits for emissions from the baghouse system. This permit also did not lower the existing limits for the emissions of the basic oxygen furnaces.

[63] To address the changes to the CAAPP permit that would be needed for use of the new baghouse system, Permit 11050006 provides for replacement of Section 7.5 of the CAAPP permit, which addresses the basic oxygen furnace shop, including the basic oxygen furnaces, in its entirety. The new version of Section 7.5 addresses the basic oxygen furnace shop with the new baghouse system. Given the extent of the changes to Section 7.5 that were needed to accommodate addition of a baghouse to the particulate control system for the basic oxygen furnaces, this approach was taken to Permit 11050006 to provide accuracy, clarity and simplicity in the revisions to the CAAPP permit that were being authorized.

[64] The 2022 application does address the addition of the baghouse control system for the basic oxygen furnaces as related to the emission of the furnaces. US Steel does not propose separate limits set for the individual emission points for these furnaces. Instead, the application requests that the revised permit set overall limits for the emissions from the control systems of the basic oxygen furnaces.

Section 39.5(13)(a) of the Illinois Environmental Protection Act provides that "The Agency shall take final action **on a request** for an administrative permit amendment within 60 days after **the receipt of the request**." (Emphasis added.) Accordingly, in the absence of a formal request from US Steel to the Illinois EPA to initiate the administrative amendment of the CAAPP permit contemplated by Permit 11050006, the 2022 application can only request Integrated Processing to allow administrative amendments of the current CAAPP permit, as has actually been physically issued by the Illinois EPA.[65, 66]

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[65] The timing of the physical issuance of a revised CAAPP permit by the Illinois EPA is critical as a procedural matter because it starts the period within which the Permittee may appeal such action to the Pollution Control Board. Moreover, in PCB 2013-62, US Steel has already appealed certain elements of the changes to the CAAPP permit that are addressed by the administrative amendment to the CAAPP permit authorized pursuant to Permit 11050006.

Given this appeal, the Illinois EPA would not "reinstate" those provisions when issuing the amended CAAPP permit. Instead, it is expected that the amended CAAPP permit would contain notes that explain that the appealed provisions continue to be present in the that existing CAAPP permit as they were appealed. Nevertheless, it is possible that US Steel would appeal those notes in the amended permit as they would acknowledge the continued existence of the appealed provisions.

[66] Concerns are posed by certain conditions in existing Construction Permit 11050006 and the related amendments to CAAPP Permit 96030056 that it authorizes. The 2022 application is not accompanied by a request for changes to Permit 11050006 or a proposal for how to address these concerns so that they would not be perpetuated in the amended CAAPP permit. One concern is that the deadlines in Permit 11050006 for performing emission testing on the new baghouse and completing certain other actions were based on the basic oxygen furnaces being in routine use once the construction of the new baghouse system was completed. The permit did not contemplate the over two yearlong interruption in production that began in December 2015. US Steel undertook this interruption in production in response to the poor markets for domestic steel at that time. As such, although failures to meet certain deadlines in Permit 11050006 likely were reasonable, it is not clear that they would be excused as being due to *force majeur* (i.e., event(s) that could not reasonably be anticipated or controlled by the source).

The other concern with existing Construction Permit 11050006 and the related amendments to CAAPP Permit 96030056 is that they overlook the role of the existing ESP control system in controlling particulate emissions from charging and tapping of the basic oxygen furnaces. Instead, Permit 11050006 incorrectly indicates that the new baghouse system will control emissions from charging and tapping of the furnaces and the existing ESP system will control emissions from the refining process. In fact, the new baghouse system was constructed to improve control of emissions from charging and tapping, with capture hoods to collect particulate emissions that are not captured by the hoods that serve the ESP system. This is perhaps most clearly shown in the 2010 Memorandum of Understanding between US Steel and the Illinois EPA (MOU) as this MOU addresses improvement in the control of emissions from charging of the furnaces. Section 4(d) of the MOU acknowledges the presence of the existing control for charging with the ESP. It also indicates that control of emissions from charging could be improved by ducting either some or all of these emissions to a new baghouse system. In any case, the errors in the description of the new baghouse system for the basic oxygen furnaces in Permit 11050006 should also be corrected so that erroneous information is not perpetuated in the amendments to the CAAPP permit.

15. THE 2022 APPLICATION WOULD NOT CLARIFY THE RELATIONSHIP BETWEEN FUGITIVE DUST CONTROL MEASURES REQUIRED BY PERMIT 95010001 AND MEASURES REQUIRED BY 35 IAC PART 212 SUBPART K

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 9.1(d), 39(a)*, 39(a)**, 39(a)***, 39.5(5)(i), 39.5(7)(a), 39.5(10)(a)(iv) and 39.5(13)(c)(v).

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.160(a).

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* As related to practices to reduce emissions of fugitive dust from roadways, parking areas and open areas at the Granite City Works and certain public roadways near this facility, the 2022 application does not propose revisions to clarify the interplay between the associated recordkeeping and reporting that are required by Permit 95010001 and the associated recordkeeping and reporting that are required by Board rules. In this regard, except for Condition 25, Permit 95010001 does not address the Board's rules for control of emissions of fugitive dust. (Condition 25 addresses 35 IAC 212.316(e)(1), which limits the opacity of emissions from roadways and parking areas at the facility to no more than 5 percent, average of four vehicle passes, 3 opacity readings for each pass.) While the CAAPP permit for the facility addresses requirements in Board rules for control of fugitive dust, it is unclear whether the requirements for recordkeeping and reporting in 35 IAC 212.316(g) are applicable for the public roadways for which specific measures to reduce emissions of fugitive dust are required by Permit 95010001. This is because Condition 7.13.9(a) in Part 7.0 of the CAAPP permit, which contains "Unit Specific Conditions for Specific Emission Units," provides that the requirements of 35 IAC 212.316(g) apply for "… any fugitive particulate matter emission unit subject to 35 IAC 212.316," without further elaboration on whether public roads are subject to 35 IAC 212.316. However, Condition 5.3.2(c)(ii) in Part 5.0 of the CAAPP permit, which contains "Overall Source Conditions," explicitly applies the requirements for Fugitive Particulate Matter Operating Programs, 35 IAC 212.309, 212.310 and 212.312, to the public roadways for which measures to reduce emissions of fugitive dust are required. Accordingly, for the subject public roadways, the CAAPP permit indirectly indicates that the requirements of 35 IAC 212.316(g) also apply.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* Absent clarifying information as described above, the 2022 application does not include the necessary information to allow a revision to Permit 95010001 to be proposed, much less issued, for the Project with Integrated Processing, as is also requested by the application. This is because the amendment of the CAAPP permit that would be authorized by means of the requested revision of Permit 95010001 would be deficient. For roadways, parking areas and other open areas, such an amended CAAPP permit, would not clearly delineate

the standards for opacity of emissions pursuant to Board rules that apply to the different categories of emission units (e.g., 5 percent for roadways and parking areas at the facility, 10 percent for storage piles, and 20 percent for the on-site landfill). In addition, if provisions of 35 IAC 212.316 should not be applied to public roadways, as they are not part of the Granite City Works, such an amended CAAPP permit would improperly perpetuate errors in the current CAAPP permit regarding applicability of Board rules.

Discussion

For roadways, parking areas, and open access areas, Conditions 23, 24, 26, 27, 28, 29 and 30 of Permit 95010001 require implementation of control measures for emissions of fugitive dust. The 2022 application does not make clear the relationship between these requirements established by permit and state regulatory requirements for fugitive emissions in 35 IAC Part 212 Subpart K.[67] In particular, Condition 29 requires daily recordkeeping for the implementation of required measures for on-site dust control. However, it does not address the relationship between these permit-mandated records and the recordkeeping required by 35 IAC 212.316(g)(2).[68] At the same time, Permit 95010001 does address one requirement of 35 IAC Part 212 Subpart K as Condition 25 restates the requirement of 35 IAC 212.316(e)(1), which provides that the opacity of fugitive particulate matter emissions from any roadway or parking area at the Granite City Works shall not exceed 5 percent.[69] That Permit 95010001 does not currently deal with regulatory

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[67] Incidentally, the CAAPP permit for the Granite City Works appears to erroneously apply the requirements of 35 IAC Part 212 Subpart K, to the requirements for off-site dust control in Permit 95010001. These regulatory requirements, including that subject sources must be operated under the provisions of an operating program designed to significantly reduce fugitive particulate matter emissions, are applicable to US Steel for sources of fugitive dust at the Granite City Works. However, 35 IAC 212.302 appears to provide that the various emission standards and control requirements in 35 IAC Part 212 Subpart K, other than the general standard for the opacity of fugitive emissions in 35 IAC 212.301, apply for emission units for fugitive dust at certain types of facilities, including manufacturing facilities. Accordingly, these regulatory requirements would not apply to off-site roadways and the compliance procedures for the control measures for off-site roadways should instead be established by permit.

[68] For example, for roadways and parking areas at a steel mill in Granite City (i.e., the Granite City Works), 35 IAC 212.316(g)(2) requires the owner or operator to keep the following detailed records related to the application of control measures for these units:

> 35 IAC 212.316(g)(2) …
>
> D) For each application of water or chemical solution to roadways by truck: the name and location of the roadway controlled, application rate of each truck, frequency of each application, width of each application, identification of each truck used, total quantity of water or chemical used for each application and, for each application of chemical solution, the concentration and identity of the chemical;
> E) For application of physical or chemical control agents: the name of the agent, application rate and frequency, and total quantity of agent, and, if diluted, percent of concentration, used each day;
> F) A log recording incidents when control measures were not used and a statement of explanation.

[69] In Condition 31, Permit 95010001 also refers to 35 IAC Part 212 Subpart U, which also addresses fugitive emissions. For certain facilities, including the Granite City Works, it requires that the owner or operator prepare a contingency measure plan for reductions in particulate emissions that could be

requirements for fugitive dust is an issue as Integrated Processing of a revision of this permit requires that the compliance procedures in the revised permit be consistent with those required by the CAAPP.

implemented in the event of an exceedance of the NAAQS for PM10, 24-hour average. Incidentally, Illinois has never needed to implement the contingency plans required by 35 IAC Part 212 Subpart U.

16. THE 2022 APPLICATION DOES NOT ADDRESS CHANGES TO THE CAAPP PERMIT THAT ARE NEEDED DUE TO REVISIONS TO 40 CFR 63 SUBPART FFFFF, AS COULD BE EXPEDITED BY INTEGRATED PROCESSING OF PERMIT 95010001

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 39(a)*, 39(a)**, 39.5(5)(i), 39.5(7)(a), 39.5(10(a)(iv) and 39.5(13)(c)(v).

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.160(a) .

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* The 2022 application does not address or identify changes to Permit 95010001 and, by means of Integrated Processing of the revision to Permit 95010001, the changes to the CAAPP permit for the Granite City Works, Permit 96030056, that are appropriate as a result of certain revisions of the Iron and Steel NESHAP, 40 CFR 63 Subpart FFFFF. Those revisions, which took effect in January 2022, provide that the emission standards in 40 CFR 63 Subpart FFFFF apply at all times. The prior exemptions from these standards for a subject unit during periods of startup, shutdown and malfunction no longer apply. The provisions of 40 CFR 63 Subpart FFFFF are relevant to Permit 95010001 as it directly or indirectly relies on these rules for the compliance procedures that accompany the permit limitations for the particulate emissions of the NESHAP-subject units, as needed to make those limitations enforceable as a practical matter. For the BOFs, Permit 95010001 directly relies on 40 CFR 63 Subpart FFFFF as Condition 9 refers to applicable provisions of 40 CFR 63 Subpart FFFFF for the work practices, opacity limits, operational limits, emission testing, operational monitoring, recordkeeping and reporting that are required. For the blast furnace casthouse and units other than the BOFs that are subject to 40 CFR 63 Subpart FFFFF, the applicable compliance provisions of this NESHAP are currently indirectly relied upon as those requirements are addressed in the CAAPP permit for the facility,. (For the BOFs, the CAAPP permit also addresses the applicable compliance procedures of 40 CFR 63 Subpart FFFFF.)

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* Absent explicit recognition in the 2022 application of the recent revisions to 40 CFR 63 Subpart FFFFF, the version of Permit 96030056 that would be authorized by means of the Integrated Processing of revised Permit 95010001 could continue to reflect the historic version of 40 CFR 63 Subpart FFFFFF, prior to the revisions related to startup, shutdown and malfunction. For example, the current CAAPP permit addresses provisions of 40 CFR 63 Subpart FFFFF that required startup, shutdown and malfunction plans that were removed in the revision of these rules. (Refer to CAAPP Condition 7.4.5-2(a) for the "affected blast furnaces and casthouses [sic]" and CAAPP Condition 7.5.5-2(a) "for BOF [sic]." This

would be an impediment to Integrated Processing of a revision to Permit 95010001 if the revised permit would not provide for compliance requirements that are substantially equivalent to those required by the CAAPP. It would clearly be contrary to the compliance requirements of the CAAPP if for the casthouse and the BOFs, the amended CAAPP permit that would be authorized be issued by means of Integrated Processing would still include provisions of the historic version of 40 CFR 63 Subpart FFFFF that have ceased to apply.

Discussion

The 2022 application does not address revisions to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Manufacturing Facilities, 40 CFR 63 Subpart FFFFF, made by USEPA in July 2020. (85 Federal Register, pages 42,074 – 42,130, July 13, 2020). Among other revisions to 40 CFR 63 Subpart FFFFF, USEPA acted to remove exemptions from the emission and opacity limits in this NESHAP for periods of startup, shutdown and malfunction (SSM). Accordingly, effective January 12, 2022, the emission and opacity limits of this NESHAP became applicable at all times. The requirements of this NESHAP that formerly dealt with SSM ceased to be applicable. Notably, subject sources would no longer be required to keep startup, shutdown and malfunction plans detailing the procedures for operating and maintaining subject emission unit(s) during periods of SSM, as had been required by 40 CFR 63 Subpart FFFFF as it had applied 40 CFR 63.6(e)(3) in the general provisions of the NESHAP regulations to subject sources,

These revisions to 40 CFR 63 Subpart FFFFF are relevant for Permit 95010001 and the revisions to this permit requested by the 2022 application. This is because Permit 95010001 relies on the applicable compliance procedures of 40 CFR 63 Subpart FFFFF (i.e., requirements for emission testing, opacity observations operational monitoring and recordkeeping), to verify consistent operation of the casthouse, the basic oxygen furnaces and other NESHAP-subject units and their emission controls, for the purposes of assuring compliance with the emission limits set by this permit for their emissions of particulate. This reliance occurs as the emission limits that are set or would be set by a revised permit would be restated in the CAAPP permit for the Granite City Works, Permit 96030056. The provision currently in CAAPP Permit 96030056 that reflect the exceptions to the requirements of 40 CFR 63 Subpart FFFFF for SSM create a break or interruption in this reliance on the NESHAP for purposes of enforceability of permit limits for emissions, even if the actual nature and effect of this break or interruption is uncertain. Any concern over such interruptions would be eliminated if the former provisions of the NESHAP regulations, which USEPA acted to strike in July 2020, were also no longer present in the CAAPP permit.[70]

[70] From a legal and practical perspective, the continued presence of the former provisions of 40 CFR 63 Subpart FFFFF in the CAAPP permit would be problematic. Would US Steel have to maintain startup, shutdown and malfunction plans as related to particulate emissions of NESHAP-subject units relative to permit limits for particulate emissions? Would the continued presence of these provisions in the CAAPP permit throw Integrated Processing of Permit 95010001 into question as the compliance procedures that would accompany the limits for particulate emissions in revised Permit 95010001 would not be consistent with the procedures required by the CAAPP? Would US Steel and the Illinois EPA have to delineate and

17. THE 2022 APPLICATION DOES NOT ADDRESS CHANGES TO THE CAAPP PERMIT THAT HAVE RESULTED FROM SHUTDOWN OF EMISSION UNITS, AS IS RELEVANT FOR THE REQUESTED INTEGRATED PROCESSING OF THE REVISION TO PERMIT 95010001

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 39(a)*, 39(a)**, 39(a)***, 39.5(5)(i), 39.5(7)(a), 39.5(10(a)(iv) and 39.5(13)(c)(v).

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.160(a).

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* The 2022 application does not identify or address changes to the CAAPP permit for the facility, Permit 96030056, that result from the permanent shutdown of certain emission units at the facility. US Steel has also not taken other action to initiate issuance of a revision of Permit 96030056 that would remove provisions for emission units that are now permanently shutdown. In this regard, for example, Permit 96030056 currently includes provisions addressing the two by-product recovery coke oven batteries at the facility that were permanently shut down in 2015.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* Absent information in the 2022 application or other appropriate action by US Steel, as addressed above, the application does not include the necessary information to enable a revision to Permit 95010001 to be issued with Integrated Processing. This is because the application would not show that such a revision to Permit 95010001 would meet the criteria for Integrated Processing, as is specifically requested by the application. That is, the 2022 application would not show that the revisions to Permit 95010001 would provide for procedural and compliance requirements in Permit 96030056 that are substantially equivalent to those provided for by the CAAPP. The application would not support subsequent amendment of Permit 96030056 by means of Integrated Processing that would remove provisions for units that are now shutdown. Instead, absent an appropriate request, the application, would only support issuance of an amended CAPPP permit that would include the current provision for units that are now shut down. In this regard, the Integrated Processing of a construction permit only allows for subsequent amendments to a CAAPP permit as provided for by the construction permit. The Illinois EPA is not given independent authority to revise a CAAPP permit to remove provisions for units that are now shut down but are not otherwise the subject of the construction permit application.

Discussion

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then implement a secondary version of the compliance procedures that would deal with emissions of particulate from NESHAP-subject units during SSM events?

The 2022 application does not identify changes to the CAAPP permit for the Granite City Works, Permit 96030056, that are a consequence of permanent shut down of emission units, as generally addressed by Condition 9.11 of the CAAPP permit.

> Condition 9.11 Permanent Shutdown
> This permit only covers emission units and control equipment while physically present at the indicated source location(s). Unless this permit specifically provides for equipment relocation, this permit is void for the operation or activity of any item of equipment on the date it is removed from the permitted location(s) or permanently shutdown. ...

While the 2022 application acknowledges that the by-product coke ovens at the Granite City Works have been shut down, this application does not separately address the consequences for the current CAAPP permit. The shutdown of these batteries was accompanied by the shutdown of coal and coke handling operations, the coke by-products plant, the handling of coke by-products, and possibly certain wastewater treatment processes.[71, 72] In addition, although not shut down, Boilers 11 and 12, Ladle Dryer/Preheaters and Slab Reheat Furnaces are no longer able to use COG as fuel since COG is no longer produced at the facility. As such, provisions in the CAAPP permit that identify or address the use of COG in these units are no longer necessary.[73] It would be improper for the revised version of the CAAPP permit authorized by means of the Integrated Processing of a revision to Permit 95010001 to still physically include provisions that should no longer be present in the revised CAAPP permit given the permanent shutdown of the

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[71] The elimination of COG also affected the applicability of emission standards to certain units. For example, 35 IAC 212.458(b)(23) is no longer applicable, to ladle dryers/preheaters, contrary to what is stated in Condition 7.5.3-1 of the CAAPP permit.

[72] US Steel's current application for renewal of CAAPP Permit 96030056, which was received by the Illinois EPA on December 3, 2013, also does not address shut down of the by-product coke oven batteries and other related operations at the facility. This application only acknowledges that changes to the CAAPP permit will be needed in the future to address the addition of the baghouse to the particulate control system for the basic oxygen furnaces when construction of the baghouse is complete.

> The existing equipment descriptions for the individual processes at GCW (Granite City Works) in the CAAPP permit sections 7.1 to 7.4 and 7.6 to 7.13 are generally accurate. However, the Basic Oxygen Furnace process described in the CAAPP permit condition 7.5 will eventually need to be updated with the new secondary baghouse added as part of the Emission Reduction Project (Construction Permit No. 11050006) once construction is complete.
>
> Application for Renewal of CAAPP Permit 95030056, Section 2.2.2, "Process Changes."

[73] Irrespective of whether certain provisions in the CAAPP permit related to use of COG are still necessary, Condition 5.6 of the CAAPP permit limits the SO_2 emissions of these units from use of COG. (This condition restates limits from Federally Enforceable State Operating Permit 94120017, originally issued December 12, 1994.) The absence of COG does not act to excuse US Steel from required recordkeeping and periodic reporting for emissions of SO_2 and PM_{10} from these units from use of COG (CAAPP permit, Conditions 5.9(e) and 5.10.3). It also does not excuse US Steel from required operational monitoring for the use and sulfur content of COG (CAAPP permit, Conditions 5.6(a) and 7.3.9(f)). In this regard, the emission units addressed by CAAPP Condition 5.6, which are addressed by these requirements for operational monitoring, recordkeeping and reporting, have not been shut down.

emission units that were subject to those provisions.[74] The responsibility to identify provisions in the CAAPP permit that should not be carried forward initially falls on US Steel as it is the CAAPP Permittee for the Granite City Works.[75] Moreover, as the 2022 application requests Integrated Processing of the requested revisions to Permit 95010001, the subsequent revisions to the CAAPP permit that would be authorized by the revisions to Permit 95010001 must fulfill the requirement that a CAAPP permit issued for a source accurately identify or address the emission units that constitute the source is being permitted.

[74] A fundamental requirement of the CAAPP is that applications for CAAPP permits must be truthful, accurate and complete. In this regard, Section 39.5(5)(e) of the Environmental Protection Act provides that "Each submitted CAAPP application shall be certified for truth, accuracy, and completeness by a responsible official in accordance with applicable regulations." Section 10(a)(i) of the Act provides that one of the standards of issuance for a CAAPP permit by the Illinois EPA is that "… the applicant has submitted a complete and certified application for a permit, permit modification, or permit renewal consistent with subsection 5 and 14 of this Section [Section 39.5 of the Act], as applicable, and applicable regulations." The requirement for an application to be truthful, accurate and complete is applicable to US Steel's current request for revisions to Permit 95010001 as it includes a request for Administrative Amendment to the CAAPP permit for the Granite City Works by means of Integrated Processing under the CAAPP. The scope of this requirement's applicability is not limited to only certain types of CAAPP applications, such as applications for initial CAAPP permits or renewals of CAAPP permits.

[75] As US Steel is the Permittee for a CAAPP source, it must periodically report compliance or noncompliance with each of the requirements set forth in the CAAPP permit. If US Steel believes that it is "in compliance" with regard to certain requirements in the CAAPP permit because those requirements have been affected by Condition 9.11 of the CAAPP Permit, it is appropriate for US Steel to request appropriate changes to the CAAPP permit by means of an appropriate application for amendment or modification of the CAAPP permit. This is especially true as certain requirements in the CAAPP permit that relate to use of COG apply to emission units that have not been shut down.

18. THE EVALUATION OF BEST AVAILABLE CONTROL TECHNOLOGY (BACT) IN THE 2022 APPLICATION FOR CARBON MONOXIDE (CO) IS NOT SUFFICIENT AND DOES NOT ADEQUATELY SUPPORT US STEEL'S PROPOSAL FOR BACT

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were ranted as requested:* Sections 9(a), 9(b)(2), 9.1(d), 39(a)*, 39(a)** and 39(a)***.

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.152*, 201.152***, 201.160(a), 204.280, 204.330, 204.810, 204.820 and 204.1100(c).

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* For the blast furnace casthouse, for which BACT for CO must now be set as it has been realized that the casthouse emits CO, the BACT demonstration in the 2022 application does not show that options for BACT for CO other than add-on control devices were considered. For the blast furnace stoves, for which BACT for CO must now be reevaluated as increases in permitted emissions are requested, the application is not accompanied by diagrams and cost data supporting the claim that it is not feasible to conduct emission testing by USEPA reference methods for the CO emissions of the stoves. This information is necessary for the stoves if BACT for CO is to not be set as a numerical standard. (The 2022 application requests that the revised permit recognize CO emissions from the casthouse of about 300 tons/year, of which about 100 tons/year would be the increase from the Production Increase Project; the requested increase in permitted CO emissions from burning blast furnace gas (BFG) in the blast furnace stoves is almost 10,000 tons/year, with an overall increase, also considering the BFG flares and boilers, of more than 20,000 tons/year.) For both the casthouse and the blast furnace stoves, the BACT demonstrations in the application do not include descriptions or documentation for the investigations that were conducted into available options for control of CO.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* Absent information as addressed above, the BACT demonstrations in the 2022 application for CO are not complete. They do not show that BACT would be utilized for CO with changes in permitted CO emissions of the Project as requested by the application. As such, they cannot be relied upon to conclude that BACT is utilized for CO for the casthouse and blast furnace stoves, much less, for the Illinois EPA to set appropriate requirements as BACT for CO in a revision to Permit 95010001.

Discussion

The evaluation of Best Available Control Technology (BACT) for CO in Section 8 of the 2022 application lacks necessary information to support US Steel's proposal for BACT for CO for the

emissions units for which this must be determined or redetermined under the PSD program as a consequence of the requested revisions to Permit 95010001. The evaluation addresses BACT for CO for the casthouse for which BACT must now be determined as it is now recognized that the casthouse emits CO. It also addresses BACT for CO for the blast furnace stoves as the 2022 application requests that the revision of Permit 95010001 allow for more emissions of CO from these units.

The Scope of the Evaluation

As explained in the 2022 application, consistent with the definition of BACT in Section 169(3) of the Clean Air Act (42 US Code Section 7479(3) and as confirmed by USEPA guidance, a determination of BACT must consider options to control or reduce emissions of an emission unit besides add-on control devices.

> In the BACT analyses herein, the term "available" is used, consistent with U.S. EPA guidance to refer to any control strategy that is potentially applicable to the source type in question (i.e., a technology or control option that has a practical potential for application to the source category in general). These may include fuel cleaning, inherently lower polluting processes, and end of pipe control devices. All identified control strategies that are not inconsistent with the fundamental purpose and basic design of the proposed [sic] facility are listed in this step.
>
> 2022 application, Section 8.2.1.4, "Available Control Options," p. 8-4.

For the casthouse, when identifying control options, the BACT evaluation only identifies end-of-pipe or "add-on control" control options. The evaluation does not identify other process-related control options such as work practices (2022 application, Section 8.2.3.3). In contrast, for the blast furnace stoves, the evaluation identifies both add-on control options and a process-related control option. i.e., "Work Practice Standards, including good combustion practices" (2022 application, Section 8.2.2.3). The evaluation does not explain why process-related control options are not available for the casthouse.[76]

Support Provided for the Scope of the BACT Evaluation

[76] Incidentally, with regard to the blast furnace stoves, the evaluation does not explain why "good combustion practices" are considered to be a type of work practice standard rather than a separate control option. In Section 8.2.2.6 "Step 5 - Establish CO BACT," the evaluation proposes operational monitoring for temperature and oxygen levels to confirm operation of the stoves for efficient combustion of fuel, thereby maintaining CO emissions within the level that is achievable given the nature of the physical and operational design of the stoves. The evaluation also separately proposes the less prescriptive practices that are more often considered to constitute good combustion practices. For example, Section 8.2.2.6 also proposes to, "Conduct annual adjustment and tune-up to include, **at a minimum**, inspecting, adjusting, cleaning, or replacing instrumentation and operational control system components and inspecting the air-to-fuel ratio control system and adjusting as **appropriate** for **proper** operation." [Emphasis added.] Moreover, this statement of what would constitute "good combustion practices" for the stoves would be problematic as it would not be enforceable given the various qualifications, as highlighted, on the actions that are required actions to be taken.

For both the casthouse and the blast furnace stoves, the BACT evaluation in the 2022 application is not accompanied by supporting documentation for the investigation that was conducted into available control options. Instead, the evaluation simply states that a review of available control options was conducted. For example, for the casthouse, the evaluation states:

> Based on a review for BACT determinations in U.S. EPA's RBLC (RACT/BACT/LAER Clearinghouse) database and other literature, the control options that are potentially available to control CO emissions from the blast furnace casthouse are:
>
> - Capture system and thermal incineration and
> - Capture system and catalytic incineration.
>
> 2022 application, Section 8.2.3.3, p. 8-8.

When a BACT evaluation is submitted, it may be appropriate or necessary[77] for the application to also include documentary support for the review of available control options that was conducted. In this regard, BACT evaluations commonly include copies of information from the RBLC that is potentially relevant to the determination of BACT that must be made. Further explanation is also provided if some of that information is not considered applicable to the units that are the subject of the BACT determination. Likewise, as there is relevant information in the literature, especially as it is addresses available control options for the subject pollutant, copies of that information should be included in a BACT evaluation. This information enables the Illinois EPA, the USEPA and interested parties to confirm that the review of available control options for a BACT evaluation was thorough and can be relied upon to have reasonably identified potentially available control options for BACT.

Support Provided for Work Practices As BACT for the Blast Furnace Stoves

For the blast furnace stoves, the BACT evaluation for CO in the 2022 application proposes that BACT reflect certain good combustion practices for CO, rather than numerical emission standards. [78] However, the 2022 Application is not accompanied by supporting documentation to

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[77] For the 2022 application, this information is considered necessary. BACT determinations for the CO emissions of casthouses for blast furnaces and blast furnace stoves are uncommon. The Illinois EPA does not have the ability based simply on its own experience and knowledge to confirm that the potential control options for CO BACT were reasonably identified in the BACT evaluations in the application.

[78] The definition of BACT at 35 IAC 204.280 provides that:

> If the Agency [Illinois EPA] determines that technological or economic limitations on the application of measurement methodology to a particular emission units would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set further the emission reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means that achieve equivalent results.

support the claim that it is infeasible to measure their CO emissions so that BACT should not be set as a numerical emission standard.[79]

Further support is needed for the claim that measurement or testing of emissions of the blast furnace stoves is infeasible. While certain information about the stoves is provided, the application does not directly address the technological issues or costs that would be entailed to install suitable ports for testing on one or both sets of blast furnace stoves. For example, the application does not include diagrams for the existing ductwork of the stoves to address whether the configuration of this ductwork would accommodate installation of test ports at a location that would satisfy USEPA Reference Method 1. The application also does not show how the refractory lining on the stacks or their age, approximately one hundred years old, would present significant technical challenges and costs so that the installation of test ports at a suitable location should be considered infeasible. The application also does not show that there are other challenges that would need to be addressed or issues that should be considered, such as requirements of the Occupational Safety and Health Administration (OSHA), that would affect the technical feasibility and cost of installing suitable test ports on the stoves.

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[79] With respect to BACT for the blast furnace stoves, the 2022 application indicates:

> USS Granite City is proposing work practice requirements rather than numeric limits as BACT. Numeric emission limitations are not proposed because direct measurement of emissions --*i.e.*, use of U.S. EPA reference test methods—is not feasible for any of the fuel emissions units subject to the BACT requirements for CO emissions. In particular, for the stack serving the blast furnace A stoves, there is no sampling port,[45] and for the stack serving the blast furnace B stoves there is no sampling port satisfying the location requirement in U.S. EPA Reference Method 1.[46] Each stack is refractory lined and is believed to be approximately one hundred years old.
> For the reasons presented above, numeric CO emission standards are not feasible for the blast furnace stoves.
>
> Footnote 45. For the one-time exhaust gas sampling event discussed in footnote 19 of this permit application, USS Granite City inserted a sampling probe into the stack through a pipe used to inject steam into the stack.
>
> Footnote 46. Appendix A-1 to 40 CFR part 60.
>
> 2022 application, Section 8.2.2.6 "Step 5 – Establish CO BACT," p. 8-7.

19. THE APPLICATION DOES NOT ADDRESS BACT FOR SULFUR DIOXIDE (SO_2) AND CO FROM USE OF COKE OVEN GAS (COG) IN THE BLAST FURNACE STOVES

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 9.1(d), 39(a)* and 39(a)**.

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.152*, 201.152***, 201.160(a), 204.280, 204.330, 204.810 and 204.1100(c).

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* The 2022 application does not include demonstrations of BACT for sulfur dioxide (SO_2) and CO from the burning of coke oven gas (COG) in Project-affected fuel burning units.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* Absent information as described above, the 2022 application does not allow a revision to Permit 95010001 to be issued for the Production Increase Project (Project)that considers baseline emissions from burning COG. This is because the application does not provide the demonstrations of BACT that is required as the Project is a major modification for SO_2 and CO under PSD. In this regard, unlike the initial permitting of the Project, the 2022 application now quantifies emissions of particulate, NOx and VOM from burning COG and these emissions are included in revised determinations of baseline emissions. (In 1996, the Project was permitted as a major modification for SO_2 and CO but did not quantitatively address emissions from burning COG.) If emissions from burning of COG are to be relied upon for the issuance of a revised permit, the 2022 application must also address the BACT requirements of PSD for the SO_2 and CO emissions from use of COG, as would have been applicable in 1996, when the Project commenced. The fact that the by-product recovery coke batteries at the Granite City Works were shutdown in 2015 and COG is no longer available at the facility, does not alter the applicable requirements under PSD that must be satisfied. PSD would be violated if a revised permit were issued for the Project based on revised NSR applicability analyses that considered use of COG, as contained in the 2022 application, absent demonstrations that the Project utilized BACT for emissions of SO_2 and CO from use of COG.

Discussion

The 2022 application does not demonstrate that Best Available Control Technology (BACT) was utilized as an aspect of the Project for the SO_2 and CO emissions of the blast furnace stoves, as required under the PSD program (e.g., 35 IAC 204.1100(c)). In this regard, unlike the original application, the 2022 application addresses emissions from use of coke oven gas (COG) as fuel in certain Project-affected units. (Refer to the revised netting analyses for the Project for

particulate, NOx and VOM and in the 2022 application.) As the 2022 application now addresses emissions of certain pollutants from burning of COG in fuel-burning units, including the blast furnace stoves, this application must also address the related consequence for emissions of SO_2 and CO under the PSD program from burning COG in the stoves. SO_2 and CO are pollutants for which the Project is a major modification subject to PSD. However, the 2022 application does not address BACT for SO_2 and CO as applied to use of COG in the stoves. As such, the 2022 application does not demonstrate that prior to February 2015, when the by-product recovery coke oven batteries at the Granite City Works were shut down and COG ceased to be available, BACT was being utilized for the SO_2 and CO emissions from use of COG in the stoves.

With respect to CO, it is relevant that the BACT demonstration in the 2022 application focuses on CO emissions from burning of fuels other than COG. For fuel burning units, the 2022 application states that "CO emissions of these units result primarily from incomplete combustion during the firing of BFG and natural gas." This ignores the historic contribution of COG to the CO emissions of the stoves prior to February 2015. The 2022 application also does not state that, as of February 2015, it was no longer necessary to address CO emissions from use of COG because COG was no longer produced and available for use.

20. AS RELATED TO SO_2 EMISSIONS FROM USE OF BFG, THE 2022 APPLICATION IS INCONSISTENT WITH A PENDING 2008 APPLICATION

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 9(b)(2), 9.1(d), 39(a)*, 39(a)** and 39(a)***.

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 201.160(a).

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* As related to emissions of sulfur dioxide (SO_2) from burning blast furnace gas (BFG), the 2022 application is inconsistent with and conflicts with an earlier application for revisions to Permit 95010001 that was received on February 8, 2008 (the "2008 application"). For the emissions of SO_2 from burning of BFG, the 2008 application requests increases in the emissions that are allowed by Permit 95010001. The 2022 application does not request such increases and does not request any changes to Permit 95010001 related to SO_2 emissions. The 2022 application does not even address the 2008 application to explain why the revisions to Permit 95010001 requested by the 2008 application are no longer needed. US Steel has also not taken other actions that would act to resolve the conflict between the 2022 application, which is being addressed in this proceeding, and the earlier 2008 application, which is still pending. For example, US Steel has not requested withdrawal of the 2008 application. In this regard, it is noteworthy that the approach taken in the 2022 application to SO_2 emissions from burning BFG is different from the approach that is taken for NOx, VOM and particulate. For example, for the BOFs for NOx and VOM, the 2022 application requests revisions to Permit 95010001 to increase permitted emissions so as to facilitate future compliance.

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* The conflict between the 2008 application and the 2022 application is an impediment to revision of Permit 95010001 as requested by the 2022 application. Absent resolution of this conflict, either by appropriate information or request in the 2022 application or by other appropriate action by US Steel, the 2022 application should not be considered to show compliance with the SO_2 emission limits for burning BFG that are currently in Permit 95010001. As such, the 2022 application does not meet the standards for issuance of a construction permit.

Discussion

In 2008, US Steel applied for revisions to Permit 95010001 to increase permit limits for the sulfur content of BFG and the SO_2 emissions resulting from the use of BFG. That application (the 2008 application) was received on February 4, 2008. The 2022 application is inconsistent with and conflicts with the 2008 application. As such, these applications, as they currently exist, cannot be processed by the Illinois EPA absent appropriate action by US Steel on one or both of these applications, e.g., changes to the 2022 application so that it requests the same revisions to SO_2 emission limits for use of BFG as the 2008 application. In this regard, the 2022 application "… does not request any changes to the emission limits for SO_2 and lead emissions established in the Construction Permit 95010001." (2022 application, p. 2-2.) The 2008 application does request changes to the provisions of the permit for SO_2., as it is an "Application to modify to correct the emission factors used to develop the original application and permit in light of newly identified information on emissions and emission factors." (October 2008 application, p. 1-1.)

In particular, in the 2008 application:

> …US Steel seeks to revise the Production Increase Permit (95010001) to account for US Steel's revised method for calculating the SO_2 emissions from BFG combustion. This will increase the total allowable SO_2 emissions on an annual basis from combustion of BFG in the Production Increase Permit.
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> 2008 application, pp. 2-2 and 2-3

The 2008 application specifically requests that the SO_2 emission factor limit for BFG be increased from 6.65 to 16.00 pounds/million cubic feet of gas burned. With the revised emission factor, the permitted SO_2 emissions from use of the 185,030 million cubic feet of BFG per year, as allowed by the permit, would increase from 615.22 to 1480.24 tons/year. However, the 2022 application provides that the limits for SO_2 for use of BFG should be unchanged. As such, the 2022 application indicates that for use of BFG the requested revised permit should continue to limit SO_2 emission to 6.65 pounds/million cubic feet burned and 615.22 tons/year.

Moreover, the existence of the 2008 application suggests that the revisions to SO_2 emission limits that it requested were needed at the time of that application. The 2022 application does not show that this was not the case, as it does not address historic SO_2 emissions from use of BFG to show that an SO_2 emission factor of 6.65 pounds/million cubic feet was appropriate when Permit 95010001 was originally issued in 1996 and that annual SO_2 emissions have never exceeded 615.22 tons/year.

21. AS RELATED TO EMISSION LIMITS FOR SO_2, LEAD AND CO, THE 2022 APPLICATION IS INCONSISTENT WITH PENDING BOARD APPEALS

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 9(a), 39(a)*, 39(a)**, 39(a)***, 39.5(5)(i), 39.5(7)(a), 39.5(10)(a)(iv) and 39.5(13)(c)(v).

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 201.160(a).

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* For various processes, the 2022 application does not request or propose appropriate changes to the current emission factor limits in Permit 95010001 for SO_2, lead and CO to resolve pending permit appeals (PCB 2013-52 and PCB 2013-62). For these pollutants, Permit 95010001 sets emission factor limits for the blast furnace casthouse and the slag pits for SO_2; for the BOFs for lead and CO; and for desulfurization and reladling for lead. Alternatively, the 2022 application does not indicate that the inclusion of the current emission factor limits in a revised permit is not expected to result in another appeal as these limits are now considered acceptable. For the BOFs for CO, the application also does not indicate that the current emission factor limit, which applies only to the stack emissions from the electrostatic precipitator (ESP), would still be considered acceptable if applied to stack emissions. That is, the current limit would still be acceptable if it applied in aggregate to the CO emissions from the stack of the ESP and the stack of the baghouse, which was subsequently installed to improve control of the particulate emissions of the BOFs (Construction Permit 11050006). This change would be appropriate as particulate emissions of the BOFs are now addressed by two control systems. (Besides particulate, these systems capture emissions of CO and other pollutants from the BOFs but only act to reduce particulate and lead emissions.)

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* Absent information as described above, the 2022 application does not include information necessary for the Illinois EPA to include conditions in a revised permit to prevent noncompliance with certain current emission factor limits that apply to the subject processes. As the subject limits, as they are or, in the case of PCB 2013-62, would be present in the CAAPP permit, are currently the subject of appeals, it is reasonable for these limitations for the review of the application to be based on compliance not being achieved. Moreover, absent information as described above, the 2022 application does not show that, as the subject limits are appealed and could be stayed in any revised CAAPP permit, these limits should be considered to still meet the substantive requirements of the CAAPP. Finally, it is noteworthy that for the subject processes for the various emission factor limits for PM, PM-10, NOx and VOM, the application does request revisions to the emission factor limits. For those requested revisions, the 2022 application, page 2-3, explains that "USS Granite City anticipates that these revisions will

enable settlement of the permit appeals currently before the Board because they involve provisions of the permit addressing emission factors."

Discussion

As already mentioned, the 2022 application does not request any changes to the emissions limits for SO_2 and lead currently set by Permit 95010001. The application states, "This permit application also does not request any changes to the SO_2 and lead emission limits in Construction Permit No. 95010001, so SO_2 and lead emissions will not be discussed further." [2022 application, Section 2.2, "General Description of Requested Permit Revisions." p. 2-2.] [80, 81, 82] For CO, the 2022 application does request that the revised permit address emissions of CO from

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[80] In Section 3 of the application, in which support for elimination of emission factor limits and use of group limits is generally provided, the application only addresses limits for particulate, NOx and VOM. For example, the application states that,

> The approach proposed by USS Granite City with respect to the PM, PM_{10}, NOx and VOM emissions caps to be used in any revised Construction Permit No. 95010001, including the proposed revisions to certain emission limitations, compliance demonstration requirements, and other permit conditions as discussed in detail in Sections 5 through 7 of the permit application ["Proposed Changes to Permit Terms for PM and PM_{10} Emissions Increases Analyses," "Proposed Changes to Permit Terms for NOx Emission Increases Analysis, and "Proposed Changes to Permit Terms for VOM Emission Increases Analyses," respectively] is consistent with policy and precedent and will improve the enforceability of the PTE limitations in Construction Permit No, 95010001. In particular, USS Granite City emphasizes that removal of certain conditions and provisions addressing emissions individual emission units or emission points, including both limits on annual emissions and provisions emission addressing emissions factors will not result in impairment of the enforceability of the PTE limitations.
>
> 2022 application, Section 3, "Discussion of Permit Conditions Used to Restrict PTE [Potential to Emit]," 3-3.]

[81] For process operations, Permit 95010001 currently limits SO_2 emissions from the casthouse and slag pits associated with the blast furnaces in pounds per ton of iron produced and tons per year. For the casthouse, the SO_2 emissions of the main baghouse for the casthouse, the baghouse for the iron spouts at the casthouse, and the uncaptured emissions from the casthouse are limited, respectively, to 0.2006, 0.0073, and 0.0104 pounds per ton of iron produced. The SO_2 emissions of the slag pits are limited to 0.0100 pounds per ton of iron produced. (Permit 95010001, Condition 5 and Table 1.)

Although the emission factor limits for the SO_2 emissions of the casthouse are not identified as Best Available Control Technology (BACT) by Permit 95010001, these limits are considered to be the determination of BACT for SO_2 and should have been identified as such in this permit. BACT is required for the casthouse for SO_2 because the Project was a major modification for SO_2 under the PSD program, as is stated in this permit. Accordingly, as Project included physical changes to the blast furnaces to increase their production capability, BACT is required for the SO_2 emissions of the casthouse.

[82] For operations in the basic oxygen furnace shop, Permit 95010001 currently limits lead emissions in pounds per hour and tons per year. For the basic oxygen furnaces, the lead emissions from the ESP stack and roof monitor are limited to 0.01934 and 0.0129 pounds per hour, respectively. The lead emissions from desulfurization and hot metal transfer are limited to 0.0133 pounds per hour. (Permit 95010001, Condition 18 and Table 2.) The permit does not address the lead emissions of the basic oxygen furnaces that are now captured and controlled by the new baghouse system nor does the 2022 application request any revisions to the permit to address the lead emissions of these furnaces that now occur from the stack of the baghouse.

the casthouse and raise the limits for CO emissions of Project-affected fuel burning units.[83] However, the application does not request revisions to the emission limits currently in Permit 95010001 for the CO emissions of the basic oxygen furnaces, i.e., the limits in pounds per ton of steel produced and in tons per year for the CO emissions of these furnaces through the ESP stack.[84] As such, the application is not consistent with two pending permit appeals before the Board, PCB 0013-53 and PCB 0013-62, as it does not propose revisions to current permit limits for emissions of SO_2, CO and lead. As previously discussed, in these appeals, US Steel challenged all emission factor limits set by Permit 95010001 for individual process operations. US Steel has not amended these appeals so that they only address emission factor limits for PM, PM_{10}, NOx and VOM and no longer address the emission factor limits that are set for SO_2, CO and lead. In addition, in the 2022 application, US Steel does not explain why the emission factor limits in Permit 95010001 for SO_2, CO and lead that were appealed are no longer considered to be objectionable. That is, US Steel would not again challenge those limits as it has already done in PCB 0013-53 and PCB 0013-62 if a revision to Permit 95010001 were issued that continued to include the current emission factor limits.[85]

With regard to the CO emissions of the basic oxygen furnaces, the 2022 application also does not request revisions to Permit 95010001 as the current permit only addresses CO emissions from the "BOF ESP Stack." The application does not request that these limits be revised so that they address all stack emissions of the basic oxygen furnaces, e.g., CO emissions from both the stack of the new baghouse system and the stack of the ESP system. Moreover, as the 2022 application does not propose such revisions to the current limits for CO emissions of these furnaces, the application effectively requests a relaxation of the current limits. This is because the revised permit would not address the CO emissions of these furnaces that now occur through the baghouse stack. That is, the limits in the revised permit would not account for any CO emissions that are no longer being captured with the ESP system and are instead now being emitted from the baghouse system.[86]

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[83] In the original application for Permit 95010001, the casthouse was not identified as a source of CO and information for CO emissions was not provided. The application also requests certain updates to the limits for CO emissions from use of blast furnace gas and natural gas in Project-affected fuel burning units to reflect new information for the CO emissions from burning these fuels.

[84] Permit 95010001 currently limits CO emissions of the basic oxygen furnaces through the ESP stack to 8.993 pounds per ton of liquid steel produced and 16,097.47 tons/year. (Permit 95010001, Condition 18, Table 2, Section 1, BOF ESP Stack.) The permit does not address CO emissions that are now captured by the new baghouse system and emitted from its stack or any uncaptured CO emissions, which occur through the roof monitor.

[85] If the subject emission factor limits were included in a revised permit, the Illinois EPA could explain that, if these limits in the revised permit were stayed pursuant to an appeal to the Pollution Control Board, the limits would continue to be enforceable pursuant to Permit 95010001 as issued before the revision of the permit and any appeal of the revised permit to the Board.

[86] The 2022 application also does not request revisions to Permit 95010001 to address uncaptured CO emissions of the basic oxygen furnaces or otherwise address the uncaptured CO emissions of these furnaces. This is not consistent with the approach taken for the casthouse on the blast furnaces. For the casthouse, the application requests that the revised permit limit the overall emissions of CO from the stacks on the control systems serving the casthouse. The application also includes information for the overall CO emissions of the casthouse, including other captured emissions and uncaptured emissions.

22. THE 2022 APPLICATION DOES NOT INCLUDE A SIGNED CERTIFICATION FOR THE ACCURACY AND COMPLETENESS OF THE APPLICATION

Overview of This Denial Point, with Information As Required or Specified by Section 39(a) of the Act for Denial of a Permit

1. *The Sections of the Act which may be violated if a revised permit were granted as requested:* Sections 39(a)* and 39.5(5)(c).

2. *The provision of the regulations under the Act which may be violated if the revised permit were granted as requested:* 35 IAC 270.401(f).

3. *The specific type of information, if any, which the Agency deems the applicant did not provide the Agency:* The 2022 application does not include a certification for the truth, accuracy and completeness of the application, as submitted on October 7, 2022. The certification in the 2022 application is a photocopy of an earlier certification dated February 25, 2020, that accompanied a prior application received on March 2, 2020, several years earlier. That certification cannot serve as the required certification. Also note that the 2022 application replaced the prior 2020 application. The transmittal letter accompanying the 2022 application states that, "Due to the nature of revisions throughout this application, the Illinois EPA should refer to this application for permit processing."

   With respect to the "certification" provided in US Steel's Comments responding to the Initial Draft Denial Letter, this was not sufficient to correct this omission. First, this certification, which is dated September 8, 2023, was an attachment to those comments and was not submitted as a supplement to the 2022 application. Second, the certification is not accompanied by an errata or other material correcting erroneous information in the application as either identified by the Illinois EPA in the Initial Draft Denial or identified by US Steel when developing its response to the Initial Draft Denial. Thus, even if the certification had been submitted as a supplement to the 2022 application, its truthfulness and validity would be questionable. The fact that the 2022 application was not certified puts the entire application under a cloud. In other words, as a matter of rule, absent an appropriate certification the Application is deficient. The Application cannot be considered creditable and should not be relied upon for making revisions to Permit 95010001.

As discussed in Section 8.2.3.7 of this permit application [BACT Evaluation for Blast Furnace Casthouse], USS Granite City is proposing a CO BACT emission limit of 70 lb/hr based on total emissions of these two baghouses [main casthouse baghouse and iron spout baghouse], assuming 95% capture efficiency for the capture system associated with the cast baghouse, as discussed in Section 5.2.3 of this permit application {A&B Blast Furnace Casthouse Roof Monitor Emissions PM_{10} Revised], the fugitive CO emissions from the casthouse roof monitor are 3.1 lb/hr. Total CO emissions from the casthouse roof monitor, including both baghouse and fugitive emissions are 73.1 lb/hr and 320 tons per year ("TPY").

2022 application, Section 4.4, "Updated CO Emissions Information for Blast Furnace Casthouse,"

4. *A statement of specific reasons why the Act and the regulations might not be met if a revised permit were granted as requested:* The 2022 application does not include the certification required by the Act, the Illinois EPA's regulations, and the Board's regulations.

Discussion

The 2022 application does not include a signed certification for the truth, accuracy and completeness of this application as it was actually submitted in October 2022. This is required by 35 IAC 270.401(f) and Section 39.5(5)(e) of the Act. This is because the Application requests Integrated Processing for the revisions to Permit 95010001 that are being sought. In place of this certification, the 2022 application includes a photocopy of an earlier certification, dated February 25, 2020, which was submitted with a prior application (2022 application, "Appendix A – Application Forms (Copies of Previously Submitted Versions)"). However, the 2022 application is a revision of the earlier application and US Steel intends the 2022 application to replace the earlier application submitted in March 2020 in its entirety (2022 application, Cover Letter). Accordingly, the 2022 application must include a new certification for its truth, accuracy and completeness.

Appendix A: Listing of Sections of the Illinois Environmental Protection Act (Act) That Are Cited for the Different Denial Points Detailed in Attachment 1 As Sections of the Act Which May Be Violated If a Revised Permit Were To Be Granted As Requested by the 2022 Application

Note: The text of the Act (415 ILCS 5) is available on a website for Illinois Compiled Statutes maintained by the Illinois General Assembly: https://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=1585&ChapterID=36

Section 9(a): General prohibition against air pollution as it provides that no person shall "Cause or threaten to allow the discharge or emission of any contaminant into the environment in any State … so as to violate regulations or standards adopted by the Board (Pollution Control Board) under this Act." For various denial points in the Denial Letter, this general provision of the Act is cited as a provision of the Act that may be violated if a revised construction permit were issued as requested in the 2022 application as such permit would threaten to allow violations of Board regulations.

Section 9(b)(2): Prohibition against violating conditions imposed by air pollution control permits. The introductory language of Section 9 and Subsections 9(b) and 9(b)(1) of the Act provide that, "No person shall … Construct, install and equipment, facility … of any type designated by the Board … without a permit granted by the Agency unless otherwise exempt by this Act or Board regulations…." For persons with permits, the prohibition against violating permit conditions is in Subsection 9(b)(2), serving to provide that no such person shall operate any equipment or facility, "In violation of any conditions imposed by such permit."

Section 9.1(d): Prohibition against violations of certain sections of the federal Clean Air Act, including Section 165 (Prevention of Significant Deterioration (PSD)) and Section 173 (Permit Requirements for Nonattainment New Source Review Programs).

Section 39(a)*: Standard under the Act for issuance of permits. The designation "Section 39(a)*" or "39(a)*" is used to refer to the second clause of the first sentence in Section 39(a) of the Act. This clause provides that "…it shall be the duty of the Agency to issue a permit upon proof by that the applicant that the facility, equipment, vehicle vessel, or aircraft will not cause a violation of this Act or regulations thereunder." In the Denial Letter, this provision of the Act is routinely cited as a provision that may be violated because the 2022 application does not include proof that the Act or air pollution control regulations would not be violated if a revised permit were issued as requested by the application.

Section 39(a)**: Permit procedures under the Act. The designation "Section 39(a)**" or "39(a)**" is used to refer to the fifth sentence of Section 39(a) of the Act as it addresses imposition of conditions on permits. In particular, this sentence provides that in granting permits, "In granting permits, the Agency

may impose such other conditions as may be necessary to accomplish the purposes of this Act, and as are not inconsistent with the regulations promulgated by the Board hereunder." (As addressed below, this Section of the Act also provides that the Illinois EPA may impose reasonable conditions in a permit related to an applicant's compliance history as necessary to correct, detect or prevent noncompliance.) For various points in the Denial Letter, this provision of the Act is cited as one that may be violated because the 2022 application does not include information that may be needed for the Illinois EPA to impose necessary permit conditions in a permit that would be revised as requested by the application.

Section 39(a)***: Permit procedures under the Act. The designation "Section 39(a)***" or "39(a)***" is used to refer to the fourth sentence of Section 39(a) of the Act as it provides, "In granting permits, the Agency may impose reasonable conditions in a permit specifically related to an applicant's past compliance history with this Act as necessary to correct, detect or prevent noncompliance." (As discussed above, the Act also provides that permits may include conditions as may be necessary to accomplish the purposes of the Act and as are not inconsistent with Board regulations.) For certain points in the Denial Letter, this provision of the Act is cited as one that may be violated because the 2022 application does not include information that may be needed for the Illinois EPA to impose conditions to enable or facilitate future compliance.

Section 39.5(5)(e): A paragraph in Subsection 39.5(5) of the Act, "Applications and Completeness," in Section 39.5 of the Act, "Clean Air Act Permit Program." This provision requires that "Each submitted CAAPP application shall be certified for truth, accuracy and completeness by a responsible official in accordance with applicable regulations [i.e., 35 IAC 270.102 and the definition of "responsible official at Subsection 39.5(1) of the Act]. This provision is applicable for the review of the 2022 application as US Steel requests in this application that the processing of the revised permit that is requested be subject to Integrated Processing. As a consequence, the procedural and substantive requirements of Section 39.5 of the Act apply to the 2022 application pursuant to Section 39.5(13)(c)(v) of the Act, which provides the authorization for Integrated Processing of a construction permit.

Section 39.5(5)(i): A paragraph in Subsection 39.5(5) of the Act, "Applications and Completeness," in Section 39.5 of the Act. As already explained, the procedural and substantive requirements of the CAAPP are applicable to the Illinois EPA's review of the 2022 application as US Steel has requested that this application and any resulting revised permit prepared pursuant to this application be subject to Integrated Processing. The first sentence in this provision requires that:

> Any applicant who fails to submit any relevant facts necessary to evaluate the subject source and its CAAPP application or has submitted incorrect information in a CAAPP application shall, upon becoming aware of such failure or incorrect submittal, submit supplementary facts or correct information to the Agency."

For several denial points, Subsection 39.5(5)(i) of the Act is identified as a provision of the Act that might be violated if a revised permit were issued as requested by the 2022 application because it does not include "relevant information" necessary for the evaluation of the application. That is, as

related to the particular applicable requirements, the application lacks information addressing the requirements, the information in the application addressing the requirement is insufficient, or the information in the application supports a finding that the requested revisions might not comply with the requirements. Note that as Subsection 39.5(5)(i) of the Act would not be satisfied by an application, a CAAPP permit cannot be issued pursuant to such application. This is because Subsection 39.5(10)(a)(iv), one of the standards for issuance of a CAAPP permit, would also not be satisfied.

Section 39.5(7)(a): A paragraph in Subsection 39.5(7) of the Act, "Permit Content," in Section 39.5 of the Act. This paragraph requires that "All CAAPP [Clean Air Act Permit Program] permits shall contain limitations and conditions and other enforceable terms and conditions, including but not limited to operational requirements, and schedules for achieving compliance at the earliest reasonable date, which are or will be required to accomplish the purposes and provisions of this Act and to assure compliance with all applicable requirements [emphasis added]." For various points in the denial letter, this provision is cited as a provision of the Act that may be violated because the 2022 application does not include information that may be needed for the Illinois EPA to impose necessary permit conditions in a revised version of Permit 95010001 that would be revised as requested by the application. This provision is relevant to the Illinois EPA's review of the 2022 application as US Steel has requested that the application and any resulting permit be subject to Integrated Processing. As provided by Sections 39.5(13)(a) and (a)(iv), as listed below, this makes the application subject to substantive requirements of the CAAPP. It is also noteworthy that, absent Integrated Processing, any revised construction permit that is issued pursuant to the 2022 application would not resolve US Steel's pending appeal of the current CAAPP permit for the Granite City Works (PCB 2013-53) or the related appeal of Construction Permit 11050006 (PCB 2013-62). Resolution of these appeals would require a separate CAAPP permit application and a permit proceeding to revise the CAAPP permit. Moreover, the revised CAAPP permit that would result from the CAAPP proceeding would not necessarily reflect the terms and conditions established in the earlier revision of Permit 95010001. As such, resolution of these appeals could require two more permit proceedings, i.e., a proceeding to modify the CAAPP permit and another proceeding for revisions to Permit 95010001 to address issues identified during the modification of the CAAPP permit.)

Section 39.5(10)(a)(iv): A paragraph in Subsection 39.5(1) of the Act. As Subsection 39.5(5)(i) of the Act would be violated if a revised permit were issued as requested, the 2022 application also would not satisfy Subsection 39.5(10)(a)(iv) of the Act, one of the standards for issuance of a permit under the CAAPP. This is because this application would not include all "relevant information." Subsections 39.5(10)(a) and (a)(iv) of the Act provide that:

> The Agency shall issue a CAAPP permit, permit modification, or permit renewal if all of the following conditions are met:
>
> . . .

(iv) The Agency has received a complete application and if necessary, has requested and received additional information from the application consistent with Subsection 5 of this Section and applicable regulations.

Section 39.5(13)(c)(v): Paragraphs (a) and (c)(v) in Subsection 39.5(13) of the Act, "Administrative Permit Amendments," in Section 39.5 of the Act. The designation "Section 39.5(13)(c)(v)" or "39.5(c)(v)" are used to refer to these paragraphs. These paragraphs contain the authorization for the Integrated Processing of a construction permit so as to allow the related revisions to the CAAPP permit to be made by administrative amendment, thereby avoiding the need for a subsequent modification of the CAAPP permit by either a minor or significant modification, as appropriate. These paragraphs of Subsection 39.5(10)(c) of the Act provide:

c. For purposes of this Section [Section 39.5 of the Act] the term "administrative amendment " shall be defined as a permit revision that can accomplish one or more of the changes described below:

...

v. Incorporates into the CAAPP permit the requirements from preconstruction review permits under a USEPA-approved program [i.e., Illinois construction permit program for sources of emissions and air pollution control equipment], provided the program meets procedural and compliance requirements substantially equivalent to those contained in this Section [emphasis added].

For various denial points in the denial letter, these paragraphs are cited as provisions of the Act that may be violated because the 2022 application is not sufficient for the Illinois EPA to impose necessary permit conditions in a new version of Permit 95010001 that would be revised as requested by the 2022 application. That is, this application does not include information that is necessary to enable such a revised permit to meet the compliance requirements, i.e., the substantive requirements, that must be satisfied by a CAAPP permit. For example, for certain emissions units, the Application requests that Permit 95010001 be revised to prescribe the actual emission factors that are to be used to determine compliance with limitations on annual emissions set by this permit. However, the application does not provide the supporting information that USEPA has found necessary for a permitting authority, e.g., the Illinois EPA, to set "prescribed emission factors" when issuing a Title V Permit. Similarly, the 2022 application requests certain revisions to the organization and terminology in Permit 95010001 for consistency with the CAAPP permit. However, the application does not request all such revisions that may be appropriate to reasonably achieve consistency in the organization and terminology of these permits.

Appendix B: Listing of Provisions in Subtitle B of Title 35 of the Illinois Administrative Code (IAC) That Are Cited for the Different Denial Points Detailed in Attachment 1 As Provisions Which May Be Violated If a Revised Permit Were To Be Granted As Requested by the 2022 Application

Note: The text of Illinois' regulations for control of air pollution (Illinois Administrative Code (IAC), Title 5, Subtitle B: Air Pollution, are available on a website maintained by the Board: https://pcb.illinois.gov/SLR/IPCBandIEPAEnvironmentalRegulationsTitle35

35 IAC Part 201, Permits and General Provisions

35 IAC 201.152*, Contents of Application for Construction Permit
This rule requires that applications for construction permits include certain data and information. The designation "201.152*" is used to refer to this rule as it requires this data and information to include "information concerning processes to which the emission unit or air pollution control equipment is related.

35 IAC 201.152**, Contents of Application for Construction Permit
This rule requires that applications for construction permits include certain data and information. The designation "201.152**" is used to refer to this rule as it requires this data and information to include "the quantities and types of raw materials to be used in the emission source or air pollution control equipment."

35 IAC 201.152***, Contents of Application for Construction Permit
This rule requires that applications for construction permit include certain data and information. The designation "201.152**" is used to refer to this rule as it requires this data and information include "… the nature, specific points of emissions and quantities of uncontrolled and controlled air contaminant emissions at the source that includes the emission unit or air pollution control equipment …."

~~35 IAC 201.159, Signatures~~
~~This rule requires applications for air pollution control permit submitted to the Illinois EPA to be signed. It provides that, "All applications and supplements thereto shall be signed by the owner and operator of the source, or their authorized agent, and shall be accompanied by evidence of authority to sign the application."~~

35 IAC 201.160(a)(1), Standards for Issuance
In 35 IAC 201.160(a) and (a)(1), the Pollution Control Board (Board) restates the standard of issuance in Section 39(a) of the Act for the Illinois EPA to issue a permit as applied specifically to air pollution control construction permits. This rule provides:

> a) No construction permit shall be granted unless the applicant submits proof to the Agency that:
>
> 1) The emission unit or air pollution control equipment will be constructed or modified to operate so as not to cause a violation of the Act or of this Chapter [Title 35, Subtitle B, Chapter I)];

35 IAC Part 203, Major Stationary Sources Construction and Modification

(35 IAC Part 203 is potentially of concern for the Production Increase Project for emissions of NOx, VOM and particulate. This is because, in 1996, when Permit 95010001 was initially issued for this project, the Granite City Works was in areas that were designated nonattainment for the National Ambient Air Quality Stands (NAAQS) for ozone (emissions of NOx and VOM) and particulate matter (emissions of $PM_{2.5}$). The Granite City Works is still in an area that is designated nonattainment for ozone.)

35 IAC 203.123, Federally Enforceable (Definition)
This definition provides that "Federally Enforceable" means enforceable by the United States Environmental Protection Agency [USEPA]." This definition is cited as a basis for certain denial points as the 2022 application requests revisions to Permit 95010001 to set limitations that would take the place of limitations currently in Permit 95010001. However, the application does not include information showing that these proposed limitations should be considered enforceable as a practical matter.

35 IAC 203.128, Potential to Emit (Definition)
This definition of "potential to emit" is cited as a basis for denial points as related to the role of permit limitations, as distinguished from the physical and operational design of a stationary source, in restricting the potential emissions of emission units. 35 IAC 203.128, along with 35 IAC 203.123, are cited as a basis for denial as the 2022 application does not show that certain emission limitations that are proposed, which would replace emission limitations currently in Permit 95010001, should be considered enforceable as a practical matter. In this regard, the second sentence of this definition of "potential to emit" provides that:

> Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design only if the limitation or the effect it would have on emissions is federally enforceable [emphasis added].

35 IAC 203.201, Prohibition
This provision requires an entity that would undertake a project that is "major" for a pollutant in an area that is designated a nonattainment area for the pollutant to comply with the substantive requirements of 35 IAC Part 203 for that pollutant. The various substantive requirements are then addressed later in Subpart C of 35 IAC Part 203. In this regard, the first two sentences of 35 IAC 203.201 provide:

> In any nonattainment area, no person shall cause or allow the construction of a new major stationary source or major modification that is major for the pollutant for which the area is designated a nonattainment area, except as in compliance with this Part [Part 203]for that pollutant. In areas designated nonattainment for ozone, this prohibition shall apply to new major stationary sources or major modifications of sources that emit volatile organic materials or nitrogen oxides.

As the revised NSR applicability analysis for NOx in the 2022 application does not show that the Production Increase Project would not have been a major modification for NOx with the increases in permitted NOx emissions that are being requested, 35 IAC 203.201 is cited as a basis for denial of this application. This is because the application also does not show that the substantive requirements of 35 IAC Part 203 would be fulfilled as the Project is now a major modification. For example, the 2022 application does not address the requirement in 35 IA3.302 that, as related to the role of emissions of NOx on air quality for ozone, an entity undertaking a major project for NOx in an ozone nonattainment area must provide emission offsets for NOx to compensate for the effect of the project's NOx emissions on ozone air quality.

35 IAC 203.203(b), Construction Permit Requirements and Application
For major projects that would be subject to 35 IAC Part 203, this rule sets forth the information that a permit application must contain. This rule provides that:

> Applications for construction permits required under this Section shall contain sufficient information to demonstrate compliance with 35 Ill. Adm. Code 201 [Permits and General Provisions] and the requirements of this Part [Part 203] including, but not limited to, Subpart C [Requirements for Major Stationary Sources in Nonattainment Areas, including the requirements for the Lowest Achievable Emission Rate (LAER) and the requirement to provide emission offsets].

35 IAC 203.208*, Net Emissions Determination – The Increase in Emissions from a Project
Among other aspects of "netting," this rule sets forth how the increases in emissions from a project should be addressed if a source elects to rely on netting with contemporaneous emissions decreases to show that a project would not be a major modification under 35 IAC Part 203. The first paragraph of this rule, referred to as "35 IAC 203 208*" is cited as a basis for denial of the 2022 application as the revised NSR applicability analysis for NOx in the application, which should address NOx emissions of the Production Increase Project, with the increases in permitted NO_X emissions that are now being requested. For certain units, this analysis does not show that the increases in NOx emissions from the Project have been properly addressed. For a project, itself, this rule provides that the increase in actual emissions due to the project should be addressed. However, since the amount of this increase should be determined during permitting,

i.e., before the project is implemented and the modified units begin normal operation with the project, 35 IAC 203.104(c) further provides that the Illinois EPA shall presume that the potential emissions of units with the project are equivalent to their actual emissions for purposes of permitting. (The circumstances are similar for permitting for a project that was improperly constructed without first obtaining a construction permit. This is because such source cannot rely on permit limitations in lieu of potential emissions absent enforceable limitations.) In particular, the first sentence in 35 IAC 203.208 provides:

> A net emissions increase is the amount by which the sum of any increase in actual emissions from a particular physical change or change in method of operation at a source [emphasis added], and any other increases and decreases in actual emissions at the source that are contemporaneous with the particular change and are otherwise creditable, exceeds zero.

35 IAC 203.208**, Net Emissions Determination - The Contemporaneous Time Period and Creditability of Emission Decreases

As discussed above, 35 IAC 203.208 lays out the requirement for a NSR Applicability Analysis if a source elects to rely on netting to show that a project would not be a major modification under 35 IAC Part 203. 35 IAC 203.208(a) and (c)(1), referred to as 35 IAC 203.208**, are also cited as a basis for denial of the 2022 application. This is because the revised NSR applicability analysis for NOx in the application, which addresses NOx emissions with the increases in permitted emissions that are being requested for certain units, would improperly rely on certain decreases in NOx emissions that are neither contemporaneous nor creditable. This is contrary to 35 203.208(a) and (c), which do not allow credit in the revised NSR applicability analysis for NOx based on decreases in emissions due to the shutdown of Boilers 1 through 10 and, due to the shutdown of the two by-product recovery coke oven batteries at the Granite City Works, coke oven gas (COG) no longer being available for use in Project-affected fuel burning units.as a fuel. These actions and the accompanying emission decreases occurred after the implementation of the Production Increase Project and were not contemplated by Permit 95010001. In particular, the introductory paragraph in 35 IAC 203.208 and paragraphs 35 IAC 203.208(a) and (c)(1) provide:

> A net emissions increase is the amount by which the sum of any increase in actual emissions from a particular physical change or change in method of operation at a source, and any other increases and decreases in actual emissions at the source that are contemporaneous with the particular change and are otherwise creditable, exceeds zero. The following steps determine whether the increase or decrease in emissions is available.
>
> a) Except for … [alternative provisions for projects in in serious and severe ozone nonattainment areas], an increase or decrease in actual emissions is contemporaneous only if it occurs between the date that an increase from a particular change occurs and the date five years before a timely and complete application is submitted for the particular change. …
>
> …

c) A decrease in actual emissions is creditable to the extent that:

1) It is federally enforceable at and after the time that actual construction on the particular change begins;

35 IAC 203.301, Lowest Achievable Emission Rate

For a project that is a major modification subject to 35 IAC Part 203, 35 IAC 203.301 sets forth the requirements for a permit application related to Lowest Achievable Emission Rate (LAER) for the emissions units for which LAER is required. 35 IAC 203.301(c) sets forth the requirement that LAER be demonstrated for such emission units. (Ongoing operation of LAER-subject units to comply with LAER is required by 35 IAC 203.601 once a permit is issued setting forth what LAER is for those units.) For the emission units and pollutant(s) for which LAER is required, 35 IAC 203.301(d) explicitly requires that the application include a detailed showing that the emission limitations proposed for the LAER-subject units would constitutes LAER. In this regard, these rules provide that:

c) Except as provided in subsection (e) or (f) below [Alternative provisions for projects ozone nonattainment areas that are classified as serious or severe nonattainment] the owner or operator of a major modification shall demonstrate that the control equipment and process measures applied to the major modification will produce LAER. This requirement applies to each emissions unit at which a net increase in emissions of the pollutant has occurred or would occur as a result of a physical change or change in the method of operation.

d) The owner or operator shall provide a detailed showing that the proposed emission limitations constitute LAER. Such demonstration shall include:

1) A description of the manner in which the proposed emission limitation was selected, including a detailed listing of information resources,

2) Alternative emission limitations, and

3) Such other reasonable information as the Agency may request as necessary to determine whether the proposed emission limitation is LAER.

35 IAC 203.302(a), Maintenance of Further Reasonable Progress and Emission Offsets

For a major project that is subject to 35 IAC Part 203 for a pollutant, this rule sets forth the basic requirement that project be accompanied by emission offsets. Emission offsets are enforceable reductions in the emissions of the subject pollutant, usually by existing source(s) other than the source at which the project would take place, that affect the quality of the ambient air that the emissions of the subject pollutant from the project would affect. The role of the offsets is to counterbalance the effect of the emissions of the subject pollutant from the project on ambient air quality that exceeds the applicable National Ambient Air Quality Standard. In this regard, 35 IAC 203.302(a) provides that:

a) The owner or operator of a new major source or major modification shall provide emission offsets equal to or greater than the allowable emissions from the source or the

net increase in emissions from the modification sufficient to allow the Agency to determine that the source or modification will not interfere with reasonable further progress as set forth in Section 173 of the Clean Air Act (42 U.S.C. 7401 et seq.).

35 IAC Part 204, Prevention of Significant Deterioration

(35 IAC Part 204 is of concern or potential concern for the Production Increase Project for emissions of NOx, SO_2, CO and lead. This is because, when Permit 95010001 was initially issued, the Granite City Works was in various areas that were designated attainment or unclassified, rather than nonattainment, for the NAAQS for CO, SO_2 and lead. It was also in an area designated as attainment or unclassified for the NAAQS for nitrogen dioxide (NO_2). The areas in which the Granite City Works is located are still designated attainment or unclassified for these pollutants. (After the NAAQS for lead was revised in 2008, an area that includes the Granite City Works was then designated nonattainment for lead in 2010. This area was later redesignated to attainment for lead in 2018.)

35 IAC 204.280, Best Available Control Technology (BACT) (Definition)
This definition reflects USEPA's guidance at 40 CFR 51.166(b)(12) for the meaning of this term. It is noteworthy that this definition provides that BACT is to reflect the maximum degree of reduction of emissions for the unit(s) and pollutant(s) for which it is required as determined to be achievable ".. through production processes or available methods, systems and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant." As such, in addition to the use of add-on air pollution control equipment, both a BACT demonstration and a BACT determination must consider approaches to reducing emissions other than tradition air pollution control equipment. In addition, this definition provides that while it is preferred that BACT be codified in a permit as an emission limitation or a limitation for visible emissions, "If the Agency determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard, or combination thereof, may be prescribed instead to satisfy the requirement for the application of BACT."

35 IAC 204.330, Complete (Definition)
For an application for a permit for a major project subject to PSD [Prevention of Significant Deterioration], this definition provides that, "'complete' means, that the application contains all of the information necessary for processing the application."

35 IAC 204.400, Federally Enforceable (Definition)
This definition of "federally enforceable" in 35 IAC Part 204 is similar to the definition at 35 IAC 203.123. This definition also expressly identifies certain limitations that are, by definition, considered enforceable by USEPA (e.g., "...requirements within the SIP, any permit requirements established under 40 CFR 52.21... or this Part [Part 204} or under regulations approved under 40 CFR 51 Subpart I ..., including operating permits issued under a USEPA-approved program that is incorporated into the SIP and expressly requires adherence to any permit issued under such

program"). However, it does not provide that limitations in a construction permit are still federally enforceable even if they are not enforceable as a practical matter.

35 IAC 204.550*, Net Emissions Increase (Definition) – The Increase in Emissions from a Project
This provision, which is similar to at 35 IAC 203.208, "Net Emissions Determination," sets forth how the increases in emissions from a project should be addressed if a source elects to rely on netting to show that a project would not be a major modification under 35 IAC Part 204. 35 IAC 204.550(a)(1), referred to as 35 IAC 204.550*, is cited as a basis for denial of the 2022 application as the revised NSR applicability analysis for NOx in the application, which addresses NOx emissions with the increases in permitted emissions that are now being requested for certain units, does not show that certain increases in emissions from the project have been properly addressed. For a project itself, this rule, which did not become effective until October 12, 2021 (86 Federal Register 50459), provides that the increase in actual emissions due to the project should be addressed. However, the application does not address post-project actual emissions. As such, 35 IAC 204.600(a)(4) provides that the potential emissions of units with the project are to be used as their actual emissions for purposes of evaluating applicability of PSD. In 1996, when the Production Increase Project was initially permitted, the requirements for Net Emission Determinations and Net Emission Increase, under the NaNSR and PSD programs respectively, were essentially identical.

35 IAC 204.550**, Net Emissions Increase (Definition) - The Contemporaneous Time Period and Creditability of Emission Decreases
As discussed above, 35 IAC 204.550 lays out the requirement for a NSR Applicability Analysis if a source elects to rely on netting to show that a project would not be a major modification under 35 IAC Part 204. 35 IAC 204.550(b)(2)) and (e)(2), referred to as 35 IAC 203.208**, are also cited as a basis for denial of the 2022 application. This is because the revised NSR applicability analysis for NOx in the application, which addresses NOx emissions with the increases in permitted emissions that are being requested for certain units, would improperly rely on certain decreases in NOx emissions that are neither contemporaneous nor creditable. This is contrary to 35 204.208(b)(2)) and (c)(2), which do not allow credit in the revised NSR applicability analysis for NOx based on decreases in emissions due to the shutdown of Boilers 1 through 10 and the elimination of coke oven gas (COG) with the shutdown of the by-product recovery coke oven batteries at the facility. These actions and the resulting emission decreases occurred after the implementation of the Production Increase Project and were not contemplated by Permit 95010001. In particular, the introductory paragraph in 35 IAC 204.550(b) and (b)(2) and 35 IAC 204.550(e) and (e)(2) provide:

> b) An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if it occurs between:
>
> ...
>
> 2) The date that the increase from the particular change occurs.
>
> e) A decrease in actual emissions is creditable only to the extent that:
>
> ...

2) It is enforceable as a practical matter at and after the time that actual construction on the particular change begins;

35 IAC 204.560, Potential to Emit (Definition)
This definition of "potential to emit" is cited as a basis for denial points as related to the role of permit limitations, as distinguished from the physical and operational design of a stationary source, in restricting the potential emissions of emission units. 35 IAC 204.560, along with 35 IAC 204.400, are cited as a basis for denial as the 2022 application does not show that certain emission limitations that are proposed, which would replace emission limitations currently in Permit 95010001, should be considered enforceable as a practical matter. In this regard, this definition of "potential to emit" provides that:

> "Potential to emit" means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable or legally and practicably enforceable (emphasis added) by a state or local air pollution control agency. Secondary emissions do not count in determining the potential to emit of a stationary source.

35 IAC 204.810(a)(3), Source Information
This rule, with the introductory language in 35 IAC 204.810 and 204.810(a), addresses the information that an applicant must include in a permit application if a determination of BACT is required for the requested permit to be issued. In this regard, they provide that:

> The owner or operator of a proposed major stationary source or major modification shall submit all information necessary to perform any analysis or make any determination required under this Part.
>
> a) With respect to a source or modification to which Sections 204.1100, 204.1110, 204.1130, and 204.1140 apply, such information shall include:
>
> ...
>
> 3) A detailed description as to what system of continuous emission reduction is planned for the source or modification, emission estimates, and any other information necessary to determine that BACT, as applicable, would be applied.

35 IAC 204.820, Source Obligation
Any owner or operator who constructs or operates a source or modification not in accordance with the application submitted under this Part or with the terms of any approval to construct (emphasis added), or any owner or operator of a source or modification subject to this Part [35 IAC Part 204] who begins actual construction after September 4, 2020 without applying for and receiving approval under this Part, shall be subject to appropriate enforcement action.

35 IAC 204.1100(c), Control Technology Review
This rule sets forth the BACT requirement for a project that is a major project for pollutant(s) for purposes of Part 204. It provides that:

> A major modification shall apply BACT for each regulated NSR pollutant for which it would result in a significant net emissions increase at the source. This requirement applies to each proposed emissions unit at which a net emissions increase in the pollutant would occur as a result of a physical change or change in the method of operation in the unit.

35 IAC 204.1110, Source Impact Analysis
This rule requires that the applicant for a permit for a project that is a major project for pollutant(s) for purposes of Part 204 demonstrate that the project would not cause or contribute to violation(s) of the relevant National Ambient Air Quality Standard (NAAQS). In this regard, this rule provides that:

> The owner or operator of the proposed source or modification shall demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases [emphasis added] or reductions (including secondary emissions), would not cause or contribute to air pollution in violation of:
>
> a) Any NAAQS in any air quality control region; …

35 IAC 204.1130, Air Quality Analysis
This rule requires that an applicant for a permit for a project that is a major project for pollutant(s) for purposes of Part 204 address the ambient air quality in the area that the project would affect for those pollutant(s). In this regard, 35 IAC 204.1130(a)(1) addresses a "Preapplication Analysis," requiring that:

> 1) Any application for a permit under this Part [35 IAC Part 204] shall contain an analysis of ambient air quality in the area that the major stationary source or major modification would affect for each of the following pollutants:
>
> A) For the source, each pollutant that it would have the potential to emit in a significant amount;
>
> B) For the modification, each pollutant for which it would result in a significant net emissions increase.
>
> …
>
> 3) With respect to any such pollutant for which such a NAAQS does exist, the analysis shall contain continuous air quality monitoring data gathered for purposes of determining whether emissions of that pollutant would cause or contribute to a violation of the standard or any maximum allowable increase.
>
> 4) In general, the continuous air quality monitoring data that is required shall have been gathered over a period of at least one year and shall represent at least the year preceding receipt of the application. However, if the Agency determines that a

complete and adequate analysis can be accomplished with monitoring data gathered over a period shorter than one year (but not less than four months), the data that is required shall have been gathered over at least that shorter period.

...

35 IAC Part 270 Clean Air Act Permit Program Procedures

35 IAC 270.401(f), General Application Information (Certification)
This rule expands upon the certification that Clean Air Act Permit Program (CAAPP) applications must contain pursuant to Subsection 39.5(5)(f) of the Act, requiring that such certifications by a responsible official for the source must be based upon information and belief after reasonable inquiry. It provides that:

> A CAAPP application shall contain a certification by a responsible official that, based on information and belief formed by the responsible official after reasonable inquiry, the statements and information in the application are true, accurate, and complete. This certification shall be dated and signed by the responsible official.

R010603

CALCULATION SHEET

Facility US Steel	I.D. 119813AAI
Anal. Eng. CPR Date 05 07 24	PN 95 01 0001
Rev. Eng. _____ Date __ __ __	Date Rec. 10 07 22 *

Application for Revision to the Construction Permit for the 1996 Production Increase Project

Project was undertaken by the former owner of the Granite City Works for an increase in iron and steel production.

The project was originally permitted as a major modification for PSD for CO and SO_2. The project was not a major modification for other pollutants for PSD or, as applicable, NA NSR.

Permit 95 01 0001 provides the PSD Approval for the project.

US Steel has requested increases in permitted emission of CO, NOx and VOM. For CO, "revised" PSD is triggered as an increase in permitted CO emission is requested. For NOx "new" PSD and NANSR appears to be triggered based on the application.

A related change that is requested to the permit are changes that attempt to resolve pending permit appeals, PCB 2013-053 and 2013-082. The appeal issue arises because Permit 95010001 set emission factor limits (e.g., limits in lb/ton) for certain Project-affected processes. US Steel disputes the enforceability of such limits and proposes revision to Permit 95 01 0001 to eliminate them.

* Application replaces earlier submittal of March 2020. Various changes made compared to prior application.

IL 532-0262

Sheet 1 of 3

CALCULATION SHEET

Facility US Steel	I.D. 119813 AAL
Anal. Eng. CPR Date 05 07 24	PN 95 010001
Rev. Eng. _____ Date _____	Date Rec. 10 07 22 *

Further discussion of the contents of this application is not needed because the Illinois EPA held a public comment period on the proposed denial of the application. In fact, actually two public comment periods, one on the "Initial" Draft Denial Letter, and another on a "Revised Draft Denial Letter.

To accompany those comment periods the Illinois EPA prepared Project Summaries discussing the project, the revisions that are requested, the challenges they propose and some of the main reasons the Application should be denied.

The Illinois EPA has also prepared a lengthy Responsiveness Summary addressing the comments that were received on the proposed denial of the application. Comments supporting denial were received from environmental advocacy organizations. Comments opposing the denial were received from US Steel.

As a general matter, US Steel argues that generally the approach to the revised NSR applicability for NOx is appropriate, i.e., is consistent with the NSR rules. However, minimal support is given for this claim. A substantial body of information shows the approach to this analysis is not correct. In its comments, US Steel also argues (in the alternative?) that certain legal decisions that US Steel should not be held accountable for mistakes by National Steel in the original application for a permit. However, the comments

* Application replaces earlier submittal of March 2020

R010607

CALCULATION SHEET

Facility US Steel	I.D. 119813AAI
Anal. Eng. AMR Date 05 07 24	PN 95 01 0001
Rev. Eng. _____ Date _____	Date Rec. 10 07 22 *

do not show how these cases are relevant to review of the application for revisions to Permit 95 01 0001.

The only comment that addressed the denial concerns 35 IAC 201.159 the signature requirement for state construction permit applications. This is acknowledged in the Responsiveness Summary but does not meaningfully affect the denial as US Steel has requested Integrated Processing of the Revised Permit.

In summary, the reasons for denial of the application are detailed in the letter denying the application. The reasons that US Steel's comments did not show that the Application met the standard for issuance of a revised permit in Section 39(a) of the Act are explained in the Responsiveness Summary.

Alan Lemaine 5/7/24

* Application replaces prior application submitted from March 2020

Illinois Environmental Protection Agency
Springfield, Illinois
Bureau of Air, Permit Section

May 8, 2024

Responsiveness Summary for Comments on the Proposed Denial of an Application* from United States Steel Corporation - Granite City Works for Revisions to a Construction Permit/PSD Approval Issued for a Production Increase Project at its Iron and Steel Mill in Granite City

Source Identification No.: 119813AAI
Permit No. 95010001, initially issued January 25, 1996
Application for Revision: Initially received March 2, 2020
Revised application received October 7, 2022

* In this permit application, US Steel asks that the requested revisions of Permit 95010001 be processed by the Illinois EPA with "Integrated Processing," as is allowed by Section 39.5(13)(a) and (c)(v) of the Illinois Environmental Protection Act (Act). Integrated Processing of the revised permit would allow changes to the Clean Air Act Permit Program (CAAPP) permit for the Granite City Works, as would be set forth in the revised permit, to subsequently be made by means of an Administrative Amendment of the CAAPP permit. Integrated Processing would require that the revision of the permit provide for compliance requirements that are substantially equivalent to those that are required in CAAPP permits. The processing of the permit must also be subject to procedural requirements that are substantially equivalent to those that apply for issuance of CAAPP permits, including an opportunity for USEPA to review and comment upon a proposed version of the revised permit following completion of a public comment period on the draft of the revised permit.

Table of Contents

1. Decision

2. Background

3. Comment Period

4. For Additional Information and Copies Of Documents

5. Appeal Provisions

6. Comments from the Public (Parties other than US Steel), with Responses by the Illinois EPA

7. Comments from United States Steel - Granite City Works (US Steel), with Responses by the Illinois EPA

8A. General Responses to Certain Comments by US Steel, as Referred to by the Illinois EPA in Its Responses in Section 7

General Response 1: General Response to Certain Comments As They Address Facts or Matter That Are Extraneous to the Planned Denial Of the Application

8B. General Responses to Certain Comments by US Steel, as referred to by the Illinois EPA in its responses in Section 7

General Response 2: General Response to Comments Concerning Prescribed Emission Factors and Emission Determination Methodology

9. Attachment A: The Proper Approach, As Prepared by the Illinois EPA, to the Increase and Net Increase in the NOx Emissions of the Project with the Requested Revisions to Permit 95010001

Appendices: Copies of USEPA Determinations Addressing Relaxations of Limitations Established in Permits As Related to Applicability of New Source Review That Are Referred to by US Steel in Certain Comments and the Illinois EPA in Its Responses to Those Comments

Appendix 1.1: Bombardier Determination

Appendix 1.2: PSE & G Determination

Appendix 1.3: Pfizer Determination

1. Decision

On May 8, 2024, the Illinois Environmental Protection Agency (Illinois EPA) denied an application submitted by US Steel for revisions to Permit 95010001, a construction permit that was initially issued in 1996 for a "Production Increase Project" at the Granite City Works.

2. Background

United States Steel - Granite City Works (US Steel) applied to the Illinois EPA for revisions to an air pollution control construction permit (Permit 95010001) for a project at its Granite City Works, the iron and steel mill in Granite City. This project (the "Production Increase Project" or "Project") involved increases in the permitted production of iron and steel by this facility. As this facility is a source of emissions, Permit 95010001 provided approval for the Project under both Illinois' construction permit programs for sources of emissions and the Prevention of Significant Deterioration (PSD) program under the federal Clean Air Act. This permit was originally issued in January 1996 to National Steel Corporation (National Steel), the former owner of the facility. This permit was transferred to US Steel after it became the owner of the facility. This proposed denial involves US Steel's application submittal of October 7, 2022 (the "Application"), which submittal revised or replaced an earlier submittal from 2020. As the Illinois EPA has denied the Application, Permit 95010001 should be expected to continue in effect as it now exists until and unless action is taken to revise this permit based on a subsequent application submitted by US Steel.

A key reason that revisions to Permit 95010001 are needed is that emission testing conducted in 2014 on the two basic oxygen furnaces (BOFs), in which steel is produced, showed their emissions of nitrogen oxides (NOx), as well as their emissions of volatile organic material (VOM), are higher than is allowed by this permit. This is because, in 1996, the initial application for Permit 95010001 understated the NOx and VOM emissions of the BOFs and the emission limits in Permit 95010001 were based on information in the original application. US Steel has worked to prepare an application for revisions to Permit 95010001 that would allow more emissions of NOx and VOM from the BOFs.

The Application also addresses other issues that are now posed by how the Project was initially permitted and subsequent changes that have occurred at the facility. Notably, the emissions of carbon monoxide (CO) of certain units have also been found to be higher than stated in

the initial application. A baghouse control system has been installed for the BOFs to improve control of particulate emissions from charging and tapping of these furnaces. The byproduct coke oven batteries formerly at the facility were shut down in 2015. The requested revisions do not include increases in the permitted production of iron and steel by the facility as allowed by this permit as initially issued in 1996.

The Illinois EPA made a preliminary determination that the Application, as revised by US Steel and submitted to the Illinois EPA in 2022 should be denied. For some of the requested revisions to Permit 95010001, the Application should be denied because it does not show that the revisions would comply with the relevant regulatory requirements and USEPA policy that apply for the revisions to Permit 95010001 that are requested. For other requested revisions, the Application does not include the information needed to support those revisions or enable those revisions to be made. In addition, the application should be denied because it would not allow for processing of a revised permit with Integrated Processing, as has been requested.

More information about the Granite City Works and the Application is available in either of the project summaries that the Illinois EPA prepared to accompany the public comment periods on the Illinois EPA's preliminary determination that the Application should be denied. These project summaries describe the basis of the Illinois EPA's planned action on the application. They include information about the Granite City Works and the ambient air quality in the area in which it is located. They also include information about the Project and the New Source Review (NSR) rules that applied to the Project as initially addressed by Construction Permit 95010001, including the PSD rules, which were applied to the Project as it is a major PSD modification for emissions of sulfur dioxide (SO_2) and CO. The improvement to the particulate matter emission control system for the BOFs, which was first addressed in 2011 by Construction Permit 11050006, is also discussed in the project summaries. Finally, the project summaries also provide an overview of the principal reasons the Illinois EPA was proposing to deny the Application.

3. Comment Period

As already explained, upon review of the Application, as US Steel supplemented or replaced its permit application for revisions to Permit 95010001 in October 2022, the Illinois EPA made a preliminary determination that the Application did not meet the standard for

issuance of a revised version of Construction Permit 95010001 as requested by the Application. The Illinois EPA then prepared a draft of its planned action to deny the Application so that the public, as well as US Steel and the USEPA, could review and comment upon it.

Due to the nature of the requested revisions to Permit 95010001, as this permit also provides the PSD approval for the Project, the Illinois EPA held a public comment period on its preliminary determination that the Application should be denied. As the preliminary determination was that the application should be denied, a draft for the denial letter was prepared setting forth and explaining the reasons why, as a preliminary matter, the Illinois EPA had determined that the Application should be denied. The actual public comment period then enabled the public, as well as US Steel and the USEPA, to consider and comment on both the planned denial of the Application and the draft of the planned letter by which the Application would be denied.

In fact, the Illinois EPA held two public comment periods on the planned denial of the application. The first comment period began with the publication of a notice on the Illinois EPA's Public Notice webpage on July 21, 2023. This comment period ended on September 11, 2023. It addressed an "initial" draft denial letter. The second comment period began on December 8, 2023, and ended on January 8, 2024. It addressed a revised draft denial letter. The second public comment period was held in response to a comment that was received on the initial draft denial letter. The revised draft denial letter more clearly sets forth the sections of the Illinois Environmental Protection Act (Act), the provision(s) of the Illinois' regulations (Title 35 Subtitle B: Air Pollution of the Illinois Administrative Code), and the reasons that would be the basis for the Illinois EPA's proposed denial of the Application.

4. For Additional Information and Copies Of Documents

Questions about the public comment period and the Illinois EPA's decision to deny the Application should be directed to:

Sarah Brubaker, Community Relations Coordinator
Illinois Environmental Protection Agency
Office of Community Relations
1021 North Grand Avenue, East
P.O. Box 19276
Springfield, Illinois 62794-9506

217-786-0790 Desk line
866-273-5488 TDD

sarah.brubaker@illinois.gov

The letter denying the Application, this Responsiveness Summary and the documents prepared for the public comment periods are available at the Illinois EPA's internet site at https://epa.illinois.gov/public-notices/boa-notices/archive.html. Copies of these documents may also be obtained by contacting the Illinois EPA at the telephone numbers listed above.

5. Appeal Provisions

Members of the public and entities that participated in the public comment process on either draft of the denial of the Application, and who are either aggrieved or have an interest that is (or may be) adversely affected by the denial of the Application, may petition the Illinois Pollution Control Board (Board) to review the denial of the Application. (See, Section 40.3(a)(2) of the Act (415 ILCS 5/40.3(a)(2)).

The procedures governing appeals are contained in Section 40.3 of the Act, "Review process for PSD permits,"[1] and in the Illinois

[1] The Illinois EPA's actions and determinations under Illinois' PSD program are subject to greater deference in an appeal than has traditionally been afforded by the Board in other appeals of permit actions. The relevant language at Section 40.3(a)(2) of the Act was modeled after USEPA's regulations at 40 CFR Part 124, "Procedures for Decision Making." The language provides that an appeal of the Illinois EPA's action must show why its reasoning as to any issue raised was "clearly erroneous" or, alternatively, must show why some discretionary or policy decision made by the Illinois EPA warrants review by the Board. In 35 IAC 105.614 of its rules, the Board provides that decisions on PSD permit applications are to be upheld by the Board "if the technical decisions contained in the permit reflect considered

Administrative Code (IAC), i.e., 35 IAC Part 101 "General Rules," and 35 IAC Part 105 Subpart F, "PSD Permit Appeals." Unless the Board, the hearing officer, the Clerk, or the Board's procedural rules provide otherwise, all documents must be filed electronically through Clerk's Office On-Line (COOL). See, 35 IAC 101.302. If allowed by the Board, the hearing officer, the Clerk, or the Board's procedural rules to file an appeal by US mail, it should be sent in a timely manner to:

Pollution Control Board, Attn: Clerk
100 West Randolph Street
James R. Thompson Center, Suite 11-500
Chicago, Illinois 60601-3218

judgment by the Agency." Additional discussion of the relevant standard of review was set forth in the Board's *First Notice Opinion and Order, In the Matter of Proposed New Part 204, et. al.*, R19-1, March 5, 2020, pp. 63 through 65.

6. Comments from the Public (Parties Other Than US Steel), with Responses by the Illinois EPA

C1. In their comments, the American Bottoms Conservancy (ABC), the Piasa Palisades Group of the Illinois Chapter of the Sierra Club, and the Metro East Green Alliance express support for the proposed denial of the Application, for the reasons set forth in the draft denial letter.

The Illinois EPA appreciates these expressions of support for the denial of this Application.

C2. In its comments, ABC explains that it objects to the use of "group limits"[2] in any future air pollution control permit that would be issued for the Granite City Works. In this regard, in its 2022 Application, US Steel requested that Permit 95010001 be revised to replace certain emission limits for individual emission units or emission points with "group limits," i.e., permit limits set for the emissions of a group of emission units.
The comment disputes the appropriateness of the three permits cited in the Application as support for the use of group limits. It observes that these permits, which were issued for sources and projects in other jurisdictions, present circumstances that are or were different than those of the Granite City Works. For example, the permit for *Shell Offshore* addressed emissions from seasonal activities for oil exploration conducted with the Kulluk, a drill rig on a towed barge, in the Arctic Ocean north of Alaska.[3] As the circumstances of these sources and projects differ in key respects from those of the Granite City Works, those permits should not be looked at as precedents for the use of group limits in the permitting of the Granite City Works.

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[2] As used for this matter, "group limits" refer to limits for the emissions of groups of related but different emission units, rather than to individual emission units or emission points or to similar units (e.g., a pair of basic oxygen furnaces (BOFs) that operate in parallel and share emission control systems). For example, the Application requests that Permit 95010001 be revised to limit the overall emissions of a group of units that includes the casthouse for the two blast furnaces and other ancillary units involved in production of iron. The permit currently sets separate limits for the emissions of the casthouse, the emissions from charging the blast furnaces, and the emissions from activities at the slag pits.
[3] As observed in this comment, the Kulluk is no longer in use. In fact, it was damaged as a consequence of a storm and subsequently scrapped.

The Illinois EPA appreciates the concern expressed in this comment. As set forth in the denial letter, one of the reasons that the Illinois EPA denied the Application is that US Steel proposed the replacement of limits for emissions of particulate matter (PM), particulate matter$_{10}$ (PM_{10}), nitrogen oxides (NOx) and volatile organic material (VOM) from the blast furnace casthouse and from the basic oxygen furnaces (BOFs) with limits that would apply to the combined emissions of these units and the associated iron or steel making operations. For example, for the BOF shop, the Application requests that Permit 95010001 be revised to set limits for the combined emissions of these pollutants from these furnaces and other operations in the BOF shop involved in making steel, i.e., the desulfurization and reladling of iron, slag skimming, and ladle metallurgy operations. The Application does not show that it is appropriate for the casthouse and the BOFs, as they are principal emissions at the facility, to simply replace the current permit limits for their emissions with group limits.

C3. In its comments, ABC explains that it "… continues to maintain that US Steel should [be] using continuous monitoring to ensure compliance with emission limits."

The Illinois EPA appreciates the spirit of this general comment. However, it is not appropriate for the Illinois EPA to substantively respond to this comment because the Illinois EPA has denied the Application. The means by which US Steel must verify compliance with permit limitations for emissions would be appropriate for consideration in the future if a new or revised permit is proposed for the facility that would set permit limitations for emissions. At that time, the appropriateness of continuous emissions or operational monitoring, or alternatively, for units and operations that do not have stacks, prescribed emission factors could be assessed for specific emission units and operations relative to the limits for emissions of different pollutants that are intended for such units and operations.

C4. A meeting for the community is requested to better understand the reasons for the proposed denial of the Application.

It was not appropriate for the Illinois EPA to participate in a meeting for the purpose identified in this comment. The reasons for the proposed denial of the Application were detailed in the initial draft denial letter prepared by the Illinois EPA and made available for public review and comment. The draft denial letter was accompanied by a project summary providing relevant background

information for this proposed action and generally discussed the reasons why the preliminary determination of the Illinois EPA was that the Application should be denied. Moreover, these commenters also expressed support for the denial of this Application. Given these circumstances, it would not be proper for the Illinois EPA to expend resources in a general meeting as requested by this comment.[4]

C5. A meeting for the community is requested to better understand the public health impacts increased emissions would have created. A meeting would be an opportunity for the Illinois EPA to educate the community on why the denial of this Application is in the best interests of human health.

It was not appropriate for the Illinois EPA to participate in a meeting for the purposes described forth in this comment. As detailed in the draft denial letters, the Illinois EPA proposed that the Application be denied because it does not show that the requested revision to Permit 95010001 would comply with the requirements of applicable regulations and policy. Notably, the Application does not show that the requested increase in permitted NOx emissions of the BOFs would not result in the Production Increase Project (the "Project") becoming a major modification for purposes of the Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NaNSR) programs, rather than a modification that was not major, as the Project was originally permitted. The Application did not address the applicable substantive requirements of PSD and NaNSR for a project that would be a major modification for NOx.[5]

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[4] It should also be noted that the Illinois EPA has provided further explanation of the reasons for denial of the Application in the Revised Draft Denial Letter that was prepared and made available for review and comment by the public. As US Steel has submitted comments opposing the proposed denial of the Application, this responsive summary also provides further explanation of the reasons why the Application should be denied as this document provides responses to US Steel's comments.

[5] In addition, the Application was denied because it does not support or adequately support representations or requests made in the Application. Notably, the Application does not support the claim that process measures had been considered as a control alternative for Best Available Control Technology (BACT) for the carbon monoxide (CO) emissions of the blast furnace casthouse and blast furnaces stoves, for which the Application requests increases in permitted emissions. The Application also does not provide support for the emission factors and emissions determination methodology for certain emission units and emission points for which the Application requests that the Illinois EPA now prescribe the use of such factors or method in the revised permit. The

The Application was not denied because of possible health impacts from increases in the permitted emissions of the Granite City Works. In this regard, the Application did not directly address the impacts on human health of the requested revisions to certain emission limits in Permit 95010001 nor was this necessary under the applicable laws, rules or policy governing the requested revisions of Permit 95010001.[6] Rather, US Steel was required in the Application to explain why the requested revisions to the permit should be considered to maintain or enable compliance with applicable substantive and procedural requirements governing emissions of the Granite City Works. For reasons as now set forth in the denial letter, the Illinois EPA has found that US Steel did not make the necessary showings in the Application. Impacts on public health, if any, from the requested increases in the permitted emissions of certain units at the facility were not one of the reasons for denial of the Application.

C6. A meeting of the Illinois EPA with community residents, labor groups and individuals, like us, fighting for a cleaner, safer, more sustainable world is requested to begin a serious discussion about transition to "green steel," i.e., steel that is produced without the utilization of fossil fuels.

It would not be appropriate for the Illinois EPA to participate in a meeting as requested or discussed by this comment. The Application requests revisions to an air pollution control construction permit that was originally issued in 1996 for increases in the production of iron and steel by the Granite City Works. As such, the laws, rules and policy that apply to the processing of the Application are those for permitting of sources

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Application was also denied because it does not request revisions and was not accompanied by other actions to facilitate consistency between the revisions to Permit 95010001 that were requested, the Clean Air Act Permit Program (CAAPP) permit for the operation of the Granite City Works, and the emission units and activities at the Granite City Works as are now actually present. Finally, the Application did not adequately address or resolve permit appeals pending before the Pollution Control Board that involve certain provisions currently in Permit 96030056, the CAAPP permit for the Granite City Works.

[6] This is consistent with a fundamental principle in regulation of emissions. That is, sources should control or reduce their emissions of air contaminants as it is practical and reasonable to do so. It is not appropriate for a source to simply be held to levels of emissions that are accompanied by concentrations of contaminants in the atmosphere that can be accommodated without any environmental impacts that would be considered excessive compared to the National Ambient Air Quality Standards (NAAQS) or established values for the concentrations of contaminants in the air. It is desirable for the ambient air to be as clean as is reasonably practical.

of emissions. When taking action on the Application, these laws, rules and policies did not provide for the broader consideration of the matters for which this comment requests that the Illinois EPA meet with the public and other parties.

Notwithstanding this request for a meeting, the Illinois EPA generally supports the development and transition to steel manufacturing processes that have lower impacts on the environment, including, both directly and indirectly, lower emissions of greenhouse gases. It is also desirable that the disruptions from this transition happen in a way that reduces impacts on local communities and on society generally.[7]

[7] It should also be noted the production of recycled steel from scrap in electric arc furnaces does not yet eliminate the demand for iron produced from ore, as is made in blast furnaces. This is because "new iron" may be needed to maintain levels of undesirable, tramp elements, such as copper and tin, in the steel produced by electric arc furnaces within acceptable levels.

7. Comments from United States Steel – Granite City Works (US Steel) with Responses by the Illinois EPA

Explanatory Preface by the Illinois EPA

Organization

US Steel's comments are generally addressed in the order in which US Steel made them. Major headings are generally identified with Roman numerals as used by US Steel (e.g., I, II, …). As US Steel further subdivided its comments, those headings are generally identified by letters, as used by US Steel (e.g., A, B,…). As US Steel's comments appeared to address specific denial points, the Illinois EPA has added an identification of the relevant denial point(s) to the headings provided by US Steel.

US Steel did not provide headings or numeric designations for its initial comments or preamble, which were presented in a series of paragraphs, each with comment(s). Accordingly, these comments have been identified under the heading of "Preamble." An attempt was not made to provide references to the specific denial points, if any, that might be relevant for these comments.

Certain refinements have been to the organization of US Steel's comments to improve clarity of both the comments and the Illinois EPA's response. As the Illinois EPA concluded that comments should be further separated or subdivided for clarity and ease of response, each such "sub-comment" is further identified using conventional numbers (i.e., 1, 2, …) or, as US Steel subdivided its comments and the Illinois EPA further subdivided them, with the letter assigned by US Steel and a conventional number (e.g., A1, A2, …). For these comments that have been subdivided of further subdivided by the Illinois EPA, the headings for the comments were added by the Illinois EPA. Similarly, for the preamble, the comments have also been subdivided (i.e., P1, P2, …), with headings added by the Illinois EPA.

US Steel's Comments

The substance of the comments submitted by US Steel is reflected in this Responsiveness Summary. The Illinois EPA has taken great care to assure that the issues, facts, observations and other matters raised or addressed by US Steel in its comments are accurately conveyed in this document. In this regard, this document reflects each substantive comment made by US Steel. In addition, the Illinois EPA has not combined, consolidated or paraphrased US Steel's comments as is both permissible and acceptable when a responsiveness summary is prepared. However, the wording of US Steel's comments in this document is not necessarily that of the comments as provided by US Steel. As is

appropriate in a responsiveness summary prepared by the Illinois EPA following a public comment period for a planned action on a permit application, in this document, US Steel's comments have been reworded for purposes of consistency, accuracy and simplification.[8] This was done to facilitate understanding of the comments and the responses provided by the Illinois EPA.

General Responses by the Illinois EPA

US Steel's comments repeat, in some cases almost verbatim, certain arguments or statements in multiple comments, these arguments or statements. These statement or arguments may be addressed collectively by the Illinois EPA, with a general response. For example, US Steel's comments claim several times that certain emission factors that are at issue in the denial of the Application have been both accepted and prescribed by Illinois EPA for a period of nearly thirty years for all purposes pertaining to the permitting of the Production Increase Project. Each time this claim is made in US Steel's comments, the Illinois EPA has not fully responded to this claim, which the Illinois EPA considers irrelevant and , perhaps inaccurate. Instead, in Section 8A and Section 8B of this Responsiveness Summary, after the responses to the non-repetitive comments here in Section 7 of this document, the Illinois EPA provides common, "general responses" to also address these statements and arguments.

US Steel's Comments with Responses by the Illinois EPA

P. PRELIMINARY COMMENTS

P1. Request That the Illinois EPA Reconsider its Preliminary Decision and Work with US Steel

United States Steel - Granite City Works (US Steel) requests that the Illinois EPA reconsider its preliminary decision and work with US Steel on resolving any outstanding issues.

Now that the Application has been denied, the Illinois EPA would be pleased to work with US Steel on the issues identified in the Denial

[8] For example, the Production Increase Project, which is the subject of Permit 95010001, is simply referred to as the "Project." The permit application or submittal that US Steel made in October 2020 is simply referred to as the "Application."

Letter, as those issues are amenable to resolution by means of permitting. In this regard, it was important that the deficiencies in the permit application received by the Illinois EPA on October 7, 2022 (the "Application") and the issues that would need to be addressed in a new or revised application for revision to Permit 95010001 to be formally set forth in a denial of the Application.

P2. Request That the Illinois EPA Meet with US Steel In the Interest of Reaching Resolution on Many of the Issues Raised by the Draft Denial

US Steel also requests to meet with Illinois EPA in the interest of reaching resolution considering many of the reasons that Illinois EPA raises in its proposed denial were not known to US Steel until it received the draft denial letter (or very shortly beforehand) notwithstanding the parties met several times to discuss the permit application submitted in 2020. The Illinois EPA did not notify US Steel of any deficiency in the Application or information submitted in such Application pursuant to 35 Illinois Administrative Code (IAC) 201.158 or 204.1300 or Subsection 39.5(5) of the Act. Many of the issues, as explained in US Steel's comments, could have been efficiently resolved if the Illinois EPA raised them during the years while the permit application was pending as is customary.

The fact that US Steel was not informed of certain deficiencies in the Application prior to the release of the Initial Draft Denial Letter is not a valid reason for the Illinois EPA to not have proceeded with denial of the Application.[9] The Illinois EPA is not required to notify an applicant for a state construction permit, including a PSD approval, of deficiencies in a permit application before denying an application. Moreover, the inability or failure of US Steel to foresee certain deficiencies with the Application, as claimed in certain comments, is certainly not an appropriate basis for the Illinois EPA to not have proceeded with denial of the Application.[10]

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[9] It is noteworthy that US Steel was informed by telephone in December 2022 that a revised permit could not be issued based on the Application. This was because the Application did not show or prove that the Project would not become a major modification for NOx with the requested revision to Permit 95010001 to increase the Permitted NOx emissions of the Basic Oxygen Furnaces (BOFs).* This is the overarching deficiency in the Application.

* Molten iron from the blast furnaces at the facility, along with scrap metal, are processed in the BOFs to make steel.

[10] It is also noteworthy that the Application requests substantive revisions to Permit 95010001 as this permit provides the PSD approval for the Project and also requests Integrated Processing of this revised permit. Accordingly, issuance of a revision to Permit 95010001 that is effective is

P3. The Application Requests Revisions of an Issued Permit, Not a New Permit

The Application is for a revision to an issued PSD permit, which was originally issued to National Steel Corporation (National Steel) in 1996 for a Production Increase Project (the "Project") at the Granite City Works. The Application is not a request for a new major modification. Therefore, the scope of the review is more limited and the permitting process is substantially different than when compared to the permitting process for a new major modification.

This comment does nothing to suggest that the Application should not be denied. This comment also downplays the revisions to Permit 95010001 that are entailed by the revisions of Permit 95010001 that are or should be requested by the Application, understating the complexity of a permit proceeding that would revise Permit 95010001. Most significantly, the Illinois EPA's review of the Application has concluded that the revised netting analysis for emissions of nitrogen oxides (NOx) in the Application does not show the Project should not have been originally permitted by National Steel Corporation (National Steel) in 1996 as a major modification for NOx for purposes of New Source Review (NSR). In this regard, the Application does not show that permitting of a "new major modification" is not needed for NOx under both the NSR programs for Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NaNSR). Given the other issues that are now posed for the Project, revision of Permit 95010001 is more complex than if the Project had been properly permitted initially or corrections had been pursued shortly after Permit 95010001 was initially issued.[11]

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not possible simply by resolution of issues with the Illinois EPA, absent opportunity for USEPA and other interested parties to provide their input. Moreover, as other parties will have an opportunity to provide their input on any revisions to Permit 95010001, the denial of the Application was an appropriate action to inform these other parties of the limited progress that had been made through the informal discussions between US Steel and the Illinois EPA about revisions to Permit 95010001.

[11] There are other reasons why the revisions to Permit 95010001 that are encompassed by the revisions of Permit 95010001 that are or should be requested by the Application would be more complex that an application for a proposed new source or modification. For example, US Steel also seeks revisions to Permit 95010001 to increase permitted emissions of carbon monoxide (CO), which are also greater than initially represented by National Steel. The Granite City Works, i.e., the facility, is now subject to the Clean Air Act Permit Program (CAAPP). The CAAPP permit issued for the facility, Permit 96030056, included

P4. Revised Draft Denial Letter Does More Than Clarify the Initial Draft Denial Letter

The Illinois EPA does more than "clarify" its previous notice of intent to deny the application; but instead raises new bases for its objections. Instead of working with US Steel on addressing any concerns, the Illinois EPA appears to be doubling down on its insistence to deny the Application. In response to US Steel initial comments of September 2023, Illinois EPA's bases for intending to deny the Application have changed and have become a moving target. Again, US Steel would prefer to work collaboratively with the Illinois EPA to address its concerns and to issue a revision of Permit 95010001 that complies with statutory and regulatory requirements; rather than searching for hypothetical and potential reasons why a revised permit should not be issued.

This comment is not relevant to the denial of the Application. It is appropriate that in the Revised Draft Denial Letter, the Illinois EPA take notice of US Steel's initial comments of September 2023. Moreover, this comment is disingenuous as the reason that the Illinois EPA prepared a Revised Draft Denial Letter was in response to a comment by US Steel on the Initial Draft Denial Letter. In that comment, US Steel claimed that the Initial Draft Denial Letter was deficient because it did not include certain information as required by Section 39(a) of the Act.[12] To address this comment and assure that the planned denial of the

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certain "emission factor limits" that have been appealed in PCB 2013-053 to the Illinois Pollution Control Board (Board) by US Steel. One aspect of this appeal is that Permit 96030056 reflects the emission factor limits for process units currently in Permit 95010001. Another construction permit, Permit 11050006, was issued in 2013 for the addition of a filter system or baghouse to improve control of particulate emissions of the BOFs. This permit has also been appealed to the Board (PCB 2013-062) as it restates the emissions factor limits for the BOFs established in Permit 95010001. The Application also requests that the revision of Permit 95010001 be handled with Integrated Processing. While this avoids sequential revisions to permits, first to Permit 95010001 and then to the CAAPP permit, it means that the revisions to Permit 95010001 must also meet substantive and procedural requirements under the CAAPP.

[12] In its comments of September 2023, US Steel indicates that the Initial Denial Letter is deficient as it does not include information as required by Section 39(a) of the Act when a state permit application is denied. This comment, as follows, also provides the relevant text of Section 39(a) of Act:

Section 39(a) of the Act further provides:

> If the Agency denies any permit under this Section, the Agency shall transmit to the applicant within the time limitations of this Section specific, detailed statements as to the reasons the permit application was denied. Such statements shall include,

Application would not be found invalid on procedural grounds, the Illinois EPA prepared the Revised Draft Denial Letter, which was then posted on December 8, 2023. This revised draft of the denial letter clearly provides the information that Section 39(a) of the Act specifies be provided when a permit application is denied.[13]

Two appendices were also added in the Revised Draft Denial Letter. These appendices list, respectively, the various provisions of the Act and the Illinois Code that are cited as the underlying bases for the various denial points, with brief descriptions of the provisions. These

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> but not be limited to, the following:
>
> (i) the Sections of this Act which may be violated if the permit were granted;
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> (ii) the provision of the regulations, promulgated under this Act, which may be violated if the permit were granted;
>
> (iii) the specific type of information, if any, which the Agency deems the applicant did not provide the Agency; and
>
> (iv) a statement of specific reasons why the Act and the regulations might not be met if the permit were granted.
>
> For the various reasons set forth herein [in US Steel's Comments of September 2023], US Steel maintains that the draft permit denial does not satisfy the above requirements. To summarize the matters discussed in this comment: the Illinois EPA has not clearly specified how certain provisions of the Act and regulations might not be met if the permit were granted; for those areas where certain provisions of the Act and regulations are specified, Illinois EPA is incorrect that those provisions would be violated if the permit were granted; and where the Illinois EPA has asserted that information was not provided, US Steel is providing that information here, is directing the Illinois EPA to the information in the application, or describes why such information is not pertinent to the issues at hand. Accordingly, Illinois EPA should not issue the proposed permit denial. …
>
> US Steel's Comments of September 2023, p. 2 and 3.

[13] The Illinois EPA also corrected certain errors in the Initial Draft Denial Letter. In particular, in its comments of September 2023, US Steel observed that while the Initial Draft Denial Letter identified Section 9.1 of the Act as a reason for the proposed denial of the Application, neither the denial letter nor the project summary explained how this provision might be violated by the revisions to Permit 95010001 that were requested by the Application. The Revised Draft Denial Letter identified subsection 9.1(d) of the Act, rather than Section 9.1 of the Act, as a provision of the Act that might be violated by the requested permit. Section 9.1(d) of the Act prohibits violations of the PSD and NaNSR programs, as it prohibits violations of Section 165 and Section 173 of the federal Clean Air Act.

appendices were added to the revised draft so that the Illinois EPA could explain certain relevant aspects of these provisions as they were cited in the Revised Draft Denial Letter without the need to do so for each denial point. In addition, as these appendices would provide basic explanations of the provisions of the Act and the Illinois Code that were identified as the bases for the planned denial, these explanations would potentially facilitate the review of and comments on the Revised Draft Denial Letter by individuals who are unfamiliar with or do not routinely refer to the Act or the Illinois Code.

As preparation of a revised version of the draft denial letter was effectively requested by US Steel in its initial comments, it is to be expected that that the Revised Draft Denial Letter elaborated and expanded upon the deficiencies in the Application. However, with minor exceptions, the text of the Initial Draft Denial Letter was carried over in the Revised Draft Denial Letter in the discussions for the various denial points in this draft letter.[14, 15]

P5. The PSD Program Is Forward Looking

The PSD program is forward looking. However, in its draft denial letter, the Illinois EPA is pursuing a path that would make US Steel retroactively address all potential operating scenarios under the facility's prior ownership and footprint, for which US Steel does not have the requisite information and for which US Steel is not responsible. Such an approach is inconsistent with the Clean Air Act and legal precedent.

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[14] For example, as clearly stated in the Revised Draft Denial Letter, in this letter, Denial Point 3 is accompanied by a new denial point, Denial Point 3A. Denial Point 3 addresses the fact that the Application does not include a demonstration that the NOx emissions of Project-affected fuel burning units would not exceed the "future amount" indicated in the Application. Denial Point 3A addresses a related deficiency in the Application that was recognized while the Revised Draft Denial Letter was being prepared. This is, for the Project-affected fuel burning units, the Application also does not provide supporting data and calculations for the value for future NOx emissions provided in the Application.

[15] The Illinois EPA disagrees that the issuance of the Revised Draft Denial Letter improperly created a moving target for US Steel, as implied by this comment. The Illinois EPA could counter that US Steel has provided the Illinois EPA with a moving target as it refers to material in its comments that was not included in the Application. However, it is inherent in the draft-comment-response process that new information be introduced into a permit proceeding.

Moreover, permitting, especially for complex situations, like the requested revision of Permit 95010001, is by its nature a moving target. Any revision of Permit 95010001 will not be complete until a public comment period is held on a draft of the revised permit; USEPA has the opportunity to object to the proposed revised permit, as Integrated Processing is requested; and any appeals of the revised permit are concluded such that the permit becomes effective and can be relied upon by US Steel.

As this comment simply expresses US Steel's opinion as to what is provided for by the PSD program, this comment does nothing to show that the Application should not be denied. As explained in response to US Steel's specific comments with regard to applicability of PSD for emissions of NOx, US Steel's reading and approach to the key provision of the PSD program that is relevant to the Application and revision of Permit 95010001 is not correct. This provision, which addresses relaxations of permit limitations established for a source or project (i.e., increases in permitted emissions), as requested by the Application for the Project, requires that the permitting of the source or project in which such limitations were established be revisited. In this regard, the PSD program is not actually forward looking as claimed by this comment.

Moreover, the Application, itself, indicates that US Steel possesses information to retroactively revisit applicability of PSD for the Project, addressing the initial permitting of the Project where the limitations that are now of concern were established. In this regard, the Application requests certain increases in the baseline emissions of NOx, particulate and volatile organic material (VOM) prior to the Project, as well as increases in the NOx and VOM emissions for which other units are permitted with the Project. Finally, the legal precedents that US Steel cites do not address relaxations of established permit limitations. As such, these legal precedents are not relevant for the revisions to Permit 95010001 that are requested by the Application to increase the permitted emissions of certain units.

P6. In the Comments That Follow, US Steel Addresses the Illinois EPA's Stated Reasons for the Proposed Denial of the Application

US Steel addresses Illinois EPA's stated reasons for its proposed denial of the Application. In the subsequent comments, Sections II through XIII, US Steel addresses the denial points detailed in the draft denial letter, Attachment 1.

A response to this comment is not necessary as it is simply intended to be a guide as to what is subsequently provided in US Steel's comments. However, as this comment may be making a distinction between the comments in Section I of US Steel's comments and its subsequent comments, this comment is not supported nor is it necessarily relevant. Many of the comments made in Section I of US Steel's comments touch on or provide introductions to matters that US Steel only fully addresses in subsequent comments.

I. THE REQUESTED PERMIT REVISIONS WOULD NOT VIOLATE PROVISIONS OF THE ILLINOIS ENVIRONMENTAL PROTECTION ACT (ACT) OR THE REGULATIONS OF THE ILLINOIS POLLUTION CONTROL BOARD FOR AIR POLLUTION

A1. As Shown by Subsequent Comments, the Application Demonstrates That the Illinois EPA Should Proceed with Issuance of a Revised Permit

The Illinois EPA proposes to deny the Application, at least in part, because Illinois EPA preliminarily determined that Section 39(a) of the Illinois Environmental Protection Act *(Act) might be violated*. Section 39(a) states that "it shall be the duty of the Agency to issue … a permit upon proof by the applicant that the facility, equipment, vehicle, vessel, or aircraft will not cause a violation of this Act or of regulations hereunder." As set forth further in its comments, US Steel maintains that the Application demonstrates that the facility and equipment at issue in the Application will not cause a violation of the Act or the regulations thereunder. Therefore, it is Illinois EPA's duty, under the statute, to proceed with issuance of a revised permit.

As this general comment simply expresses US Steel's opinion as to what its other substantive comments "demonstrate" or "show," this comment does nothing to show that that the Application should not be denied. As explained by the Illinois EPA in response to US Steel's comments related to specific denial points, those comments did not show that the Application should not be denied. In particular, US Steel's other comments do not show that the Application provides proof that if the Permit 95010001 were revised and issued as requested, the emission units and activities that are affected by the Project and currently addressed by Permit 95010001 would not violate provisions of the Act or the Illinois Code.[16]

A2. US Steel's Subsequent Comments Are Such That the Application Should Not Be Denied

For the various reasons set forth in US Steel's comments, the Illinois EPA is incorrect that any provisions of the Act or the regulations

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[16] It is also noteworthy that as Section 39(a) of the Act also addresses the information that the Illinois EPA must provide when it denies an application, the Act does not require a definitive determination that certain provisions of the Act or the Illinois Code are violated or will be violated if the requested permit were issued. In addition to the types of information that the Illinois EPA deems the applicant did not provide, Section 39(a) of the Act requires a denial letter to provide "…the Sections of the Act which may (emphasis added) be violated if the permit were granted," the provisions of the Illinois Code "… which may [emphasis added] be violated …;" and a statement of the specific reasons why the Act and the Illinois Code might [emphasis added] not be met … ."

thereunder for air pollution, i.e., Title 35: Environmental Protection, Subtitle B: Air Pollution, of Illinois Administrative Code (IAC), would be violated if the permit were granted; where the Illinois EPA has asserted that information was not provided to the Illinois EPA in the Application, US Steel is providing that information here, is directing the Illinois EPA to the information in the Application, or describes why such information is not pertinent to the issues at hand. Accordingly, Illinois EPA should not deny the Application.

Again, as this general comment simply expresses US Steel's opinion as to what its other, substantive comments "demonstrate" or "show," this comment does nothing to show that the Application should not be denied. In addition, this comment suggests, presumably related to the Revised Draft Denial Letter, that, "… where the Illinois EPA has asserted information was not provided to the Illinois EPA in the Application, US Steel is providing that information here [in certain of US Steel's comments]," it is not clear that this is sufficient to remedy a deficiency in the Application that would otherwise necessitate its denial. It is certainly appropriate for U.S. Steel's comments to direct the Illinois EPA's attention to the places in the Application where information that the Illinois EPA claims is missing from the Application is believed to be provided in the Application. Likewise, it is appropriate for comments to direct the Illinois EPA's attention to material for which it is entitled to take official notice, such as statutes, rules, USEPA rulemakings, determinations and guidance by USEPA, USEPA publications, and opinions and decisions of courts. However, it is not clear that where a permit application would have otherwise been found to be deficient and denied because certain necessary information was not included in the application, that an applicant can provide such information by providing it within its comment on a draft of a planned denial letter.[17]

A3. As Discussed in US Steel's Comments, Section XIII.A, It Would Be Inappropriate to Deny the Application Based on Certain Requirements of the Act Related to CAAPP Permits

The Illinois EPA proposes to deny the Application, at least in part, because the Illinois EPA has preliminarily determined that subsections 39.5(5)(i), 39.5(7)(a), 39.5(10)(a)(iv), 39.5(13)(a), and 39.5(c)(v) of the Act, pertaining to administrative amendment of Clean Air Act Permit Program ("CAAPP") permits, might be violated. Because the listed provisions of the Act relate only to the CAAPP, it would be

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[17] As US Steel suggests that some of its comments provide new information for the Application, it is fortunate that, at most, a handful of US Steel's comments attempt to do this. As a general matter, the denial of the Application does not hinge on these comments.

inappropriate to deny the application for a revision of the construction permit and PSD approval based on a failure to satisfy these statutory provisions, as further discussed in Section XIII.A of US Steel's comments.

This comment does not show that the Application should not be denied. As explained in response to US Steel's Comment XIII.A, the Application would be denied because the Application would not meet the cited statutory provisions. In this regard, in addition to seeking revisions to Permit 95010001, the Application, itself, also requests that the revisions of Permit 95010001 that are sought be subject to Integrated Processing. This would authorize changes that are made to the provisions of Permit 95010001 to subsequently be made to Permit 96030056, the CAAPP permit for the facility, by Administrative Amendment of Permit 96030056. As a subsequent Administrative Amendment of the CAAPP permit would be authorized by the issuance of revised Permit 95010001, the subsequent amendment of the CAAPP permit would be a ministerial action by the Illinois EPA. Accordingly, the cited provisions of the Act related to CAAPP permitting are appropriately considered relative to the revisions of Permit 95010001 requested by the Application.

A4. The Denial of the Application Because 35 IAC 203.128 and 204.560 Might Be Violated Would BE Improper Because Thes Rules Are Definitions

The Illinois EPA proposes to deny the Application, at least in part, because Illinois EPA has preliminarily determined that 35 IAC 203.128 and 204.560 might be violated. The cited rules are definitions, not affirmative requirements, and cannot be violated.

This comment does not show that the Application should not be denied because these definitions of "potential to emit" are identified as a basis for denial. These definitions, which are in Illinois' NaNSR and PSD rules respectively, can be violated as the Application does not show that the revised limitations that are proposed by the Application would not be sufficient to restrict the emissions to the levels that that the Application proposes as their potential emissions. This is explained in Appendix B of the Revised Draft Denial Letter.[18]

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[18] For example, as explained in Appendix B of the Revised Draft Denial Letter with respect to 35 IAC 204.560:

> 35 IAC 204.560, Potential to Emit (Definition)
> This definition of "potential to emit" is cited as a basis for denial points as related to the role of permit limitations, as distinguished from the physical and operational design of a stationary source, in restricting the potential emissions of emission units. 35 IAC 204.560, along with 35 IAC 204.400, are cited as a basis for denial as the 2022 application does not

II. THE APPLICATION SATISFIES 35 IAC 201.159

1. The Applications Satisfies the Requirements of 35 IAC 201.159

In the draft denial letter, Attachment 1, the Illinois EPA asserts that the Application "does not include a signed certification for the truth, accuracy and completeness of this application as it was actually submitted in October 2022, as required by 35 IAC 201.159. (The Illinois EPA also observes that "… the 2022 application includes a photocopy of an earlier certification, dated February 25, 2020, which was submitted with a prior application.") This assertion is incorrect in several respects. The Illinois EPA misrepresents this rule, which provided as follows. There is no requirement for a certification of truth, accuracy, and completeness.

> All applications and supplements thereto shall be signed by the owner and operator of the source, or their authorized agent, and shall be accompanied by evidence of authority to sign the application.

This comment does not show that the Application should not be denied based on Denial Point 22 as addressed by the Illinois EPA's responses to US Steel's other comments on the denial point. However, in response to this comment, as 35 IAC 201.159 does not specifically require the signatory for an air pollution control permit application to certify to the truth, accuracy and completeness of an application, this rule is not cited in the Denial Letter as a provision of the Illinois Code that is basis for denial of the Application. This rule is also not otherwise discussed in the Denial

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show that certain emission limitations that are proposed, which would replace emission limitations currently in Permit 95010001, should be considered enforceable as a practical matter. In this regard, this definition of "potential to emit" provides that: "Potential to emit" means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design only if the limitation or the effect it would have on emissions is federally enforceable or legally and practicably enforceable (emphasis added) by a state or local air pollution control agency. Secondary emissions do not count in determining the potential to emit of a stationary source."

Revised Draft Denial Letter. Appendix B, p. Appendix B, Page 8.

Letter. In other words, the Illinois EPA has accepted the signature of Michael Patton, General Manager, Granite City Works, as provided in the cover letter for the Application, dated October 3, 2002, as sufficient to satisfy the requirements of 35 IAC 201.159.[19, 20]

2. The Application Should Be Considered a Continuation of the Permit Application That Was Initially Submitted in March 2020

The Application, which in the Draft Denial Letters, the Illinois EPA refers to as the "2022 application" is actually a construction permit application submitted on March 2, 2020. This permit application includes a completed 199-CAAPP form, with a certification signed and dated February 25, 2020, and a completed 197-FEE form, with a check for the application fee of $23,000 and a certification signed and dated February 25, 2020. A supplement to the permit application was submitted in October 2022. As required by 35 IAC 201.159, the supplement was signed by Michael Patton, the General Manager of the Granite City Works. No application fee was provided, as is appropriate for a supplement to a pending application for a construction permit.

The Application, i.e., the permit application received by the Illinois EPA in October 2022, is not, "…actually a construction permit application submitted on March 2, 2020," as claimed by this comment. It is also not a supplement to this March 2, 2020, permit application as also claimed by this comment. The Application differs significantly from the March 2020 permit application.[21] The Application addresses the

[19] As the Application must be denied for reasons other than 35 IAC 201.159, it is not necessary here for the Illinois EPA to discuss the certification or attestation an individual must make pursuant to 35 IAC 201.159 when he or she signs a permit application. The permit application forms that the Illinois EPA has developed for air pollution control construction permit applications, e.g., Form 199-CAAPP, "Construction Permit Application for a Proposed Project at a CAAPP Source," provide for the person who signs a permit application to certify to the truth, accuracy and completeness of the submittal. This must also be accompanied by evidence of the signatory's authority to sign the Application. For example, Form 199-CAAPP provides for submission of such associated evidence as it provides for the signatory for an application to certify that, "I am the responsible official for the source, as defined by Section 39.5(1) of the Environmental Protection Act.")

[20] It should also be noted that 35 IAC 201.159 provides that both applications and supplements thereto shall be signed.

[21] The Application, as submitted in October 2022, is different from the earlier permit application submitted in March 2020 in a number of respects that are more significant than the changes in organization. For example, the Application requests future permitted annual NOx emissions for the BOFs and Project-affected fuel burning units of 400 and 706 tons/year, respectively, compared to the earlier application, which requested future permitted NOx emissions of 304.3 and 632.5 tons/year, respectively.(Compare Table 6-8 of the Application

revisions to Permit 95010001 that are requested by US Steel without the need to refer to the earlier permit application except as one might want to compare the Application with the earlier application. As such, it is appropriate as both an administrative and a technical matter that the Application, i.e., the permit application submitted in October 2022 be considered to have completely replaced the earlier permit application submitted in March 2020.[22]

This approach to the Application is consistent with the position taken by US Steel in the cover letter submitted with the Application, which states:

> In March of 2020, United States Steel Corporation - Granite City Works ("U. S. Steel") submitted an application to revise Construction Permit No. 95010001. US Steel and the Illinois EPA

to that in Table 8-7 of the earlier application.) For Project-affected fuel burning units, the Application requests future permitted annual CO emissions of 26,659 tons, compared to the earlier application, which requested future permitted emissions of 19,343 tons/year. (Compare the information in Table 4-2 of the Application to that in Table 3-2 of the earlier application.) For the blast furnace casthouse, the Application includes an analysis of Best Available Control Technology (BACT) as must be established in the revision of Permit 95010001 if it is to provide a PSD approval for these emissions. (See the BACT analysis in Section 8.2.3 of the Application, which analysis was not present in Section 4 of the earlier application.) In this regard, the Application requests that the revision of Permit 95010001, which currently does not address the CO emission of the casthouse, provide for annual emissions of 320 tons/year from the casthouse. Unlike the earlier application, for Project-affected fuel burning units, the Application does not request that the revision of Permit 95010001 prescribe the emission factors that are to be used to determine CO emissions from such for which the Application considers that emissions testing is not feasible, such as the Blast Furnace Stoves, Blast Furnace Gas (BFG) Flare 1, and the Ladle Dryer/Preheaters, which are located in the BOF Shop. (Section 3.5.1.2 of earlier application.) The Application also requests changes to the names or identification of certain units and a control device used in Permit 95010001 and certain changes to the organization of Permit 95010001, as is initially discussed in Section 2.2.2 of the Application. The changes in the place in Permit 95010001 where certain units are addressed is requested so that the placement of units in Permit 95010001 is consistent with their placement in the CAAPP permit, Permit 960300056.

[22] Incidentally, it is appropriate for the Application to be considered a continuation of US Steel's effort to formally initiate action by the Illinois EPA to make certain revisions to Permit 95010001. In this regard, as an application fee, as specified by Section 9.12 of the Act accompanies an air pollution control construction permit application, the applicant is not required to again pay the fee for submittal of an application when a revised application is submitted to the Illinois EPA in response to a notification that the earlier application was incomplete. As such, the Illinois EPA is not denying the Application because it was not accompanied by an application fee since that fee was provided with the earlier March 2020 application.

have been in discussions regarding this application. U.S. Steel has updated the permit application to reflect those discussions. Due to the nature of the discussions throughout the application, the Illinois EPA should refer to this application revision for processing.

Letter, dated October 3, 2022, Michael Patton General Manager, Granite City Works, to Bill Marr, Manager, Permit Section, Bureau of Air, Illinois Environmental Protection Agency.

The Illinois EPA's approach to the Application is also consistent with the Application, itself. In the Application, Appendix A, "Application Forms (Copies of Previously Submitted Versions)" provides copies of the two application forms submitted with the 2020 permit application, "Fee Determination for Construction Permit Application," 197-FEE, and "Construction Permit Application for a Proposed Project at a CAAPP Source," Form 199-CAAPP. As such, while not providing a newly signed versions of Form 199-CAAPP, the Application acknowledged that this form needed to be part of the Application, the permit application submitted in October 2022.

3. The Illinois EPA Did Not Request a New Signature or Certification Prior to Posting the Initial Draft Denial Letter

While the Illinois EPA had the Application for months, and virtually met with US Steel to discuss the Application, the Illinois EPA never requested such a new signature or certification.

This observation does not mean that it is not appropriate for the Application to be denied based on the absence of the certification required by Subsection 39.5(5)(e) of the Act as to the accuracy of the Application. Because of the absence of this certification, the Application does not meet the standard for issuance of a permit in Section 39(a) of the Act.[23]

[23] That the Application did not include an appropriate signature* or certification was one of the last deficiencies in the Application to be identified. The implications of the form in the Application being a copy of the form from the March 2020 permit application, which was dated February 25, 2020, was not recognized earlier. When it was recognized, the Illinois EPA had already concluded that the Application should be denied based on other deficiencies. The decision was made to address this deficiency with regard to the certification for the Application in the Draft Denial Letter with the other deficiencies in the Application.
* As explained above in response to another comment, the Illinois EPA has accepted the signature on the cover letter for the Application as satisfying 35 IAC 201.159.

III. US STEEL PROVIDED A SIGNED CERTIFICATION OF TRUTH, ACCURACY, AND COMPLETENESS FOR THE APPLICATION WITH ITS COMMENTS OF SEPTEMBER 2023 (DENIAL POINT 22)

1. The Absence of a Signed Certification for the Truth, Accuracy and Completeness of the Application Is Not a Valid Basis for Denial

In the draft denial letters, Attachment 1, the Illinois EPA asserts that the Application "does not include a signed certification for the truth, accuracy and completeness of the Application as it was actually submitted in October 2022" and that such a certification is required by Section 39.5(5)(e) of the Act. This is not a valid basis for denial of the Application for the following reasons.

As explained in Comment II above, the Illinois EPA mischaracterizes the Application, as it was submitted in October 2022, as a new or separate permit application. However, it is merely a supplement to the permit application submitted in March 2020. In the transmittal letter for the supplement, and for administrative convenience US Steel suggested that Illinois EPA refer to the supplement rather than to the initial submittal from March 2020. This was because, as requested by the Illinois EPA following review of the March 2020 permit application, the sections of the permit application were reordered.[24] The cited provision of the Act requires that each submitted permit application include a certification, but it does not expressly require a separate certification for each supplement to a permit application.

As already discussed, as a technical matter, the Application replaced the permit application that was submitted by US Steel in March 2020. As this comment only addresses the reorganization of the Application, this comment misrepresents the extent of the changes between the permit application submitted in March 2020 and the Application. With respect to whether a new certification is needed when a pending permit application is replaced by a new application, the Application, itself, indicates that this is necessary. However, the Application provided a certification that was flawed as it had been provided for the earlier submittal and could not have addressed the contents of the Application, which was submitted more than two years later.

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[24] For example, the sections summarizing changes to CO emissions and presenting proposed Best Available Control Technology ("BACT") determinations for CO emissions were Sections 3 and 4 of the March 2020 permit application and were Sections 4 and 8 of the application submitted in October 2022. In the two submittals, the relevant sections were appropriately identified in Section 1, "Introduction," and Section 2. "Overview of Requested Permit Revisions." (Footnote 1 of US Steel's Comments of January 2024.)

2. US Steel Has Provided the Required Certification with Its Comments

Nonetheless, without waiving any rights or defenses, with its September 2023 comments, US Steel provided to Illinois EPA a new certification of the truth, accuracy and completeness of the permit application that was submitted in October 2022. Accordingly, even if Illinois EPA's interpretation of Section 39.5(5)(e) of the Act were correct and a separate certification is required for each supplement to a pending permit application, that requirement was satisfied prior to the proposed denial and this claimed deficiency cannot form a valid basis for denial of the Application.[25]

However, the Illinois EPA asserts in the revised Draft Denial Letter that this was not sufficient, baselessly claiming that the certification or Application is somehow fraudulent (Per the Illinois EPA, "[t]hus, even if the certification had been submitted as a supplement to the 2022 application, its truthfulness and validity would be questionable.") The Illinois EPA then asserts that this puts the Application under a cloud. US Steel is unable to respond to these assertions because, frankly, they are absurd and are without merit. US Steel has worked collaboratively with Illinois EPA in responding to inquiries and requests.

This comment does not show that the Application should not be denied for reasons as set forth in Denial Point 22. This comment misrepresents this denial point as it selectively quotes from the Revised Draft Denial Letter and rearranges the order of the provisions that are referred to compared to their order in the Revised Draft Denial Letter. This comment also does not actually address, perhaps wittingly overlooking, the reasons that the Illinois EPA found the certification attached as Exhibit 1 to its comments of September 2023 to still be inadequate to remedy the deficiency in the Application. In this regard, as explained in the Revised Draft Denial Letter, the certification provided with US Steel's Comments of September 2023 is deficient for two reasons, as explained as follows:

> **With respect to the "certification" and "signature" provided in US Steel's Comments [of September 2020] responding to the Initial Draft Denial Letter, this certification was not sufficient to correct these omissions. First, this material, which is dated September 8, 2023, was an attachment to those comments and was not**

[25] Furthermore, this issue could easily have been avoided if Illinois EPA had simply made a request to US Steel to certify the Application, which US Steel has now done.

> submitted as a supplement to the 2022 application. Second, the certification is not accompanied by an errata or other material correcting erroneous information in the application as either identified by the Illinois EPA in the Initial Draft Denial or identified by US Steel when developing its response to the Initial Draft Denial. Thus, even if the certification had been submitted as a supplement to the 2022 application, its truthfulness and validity would be questionable. The fact that the 2022 application was not certified and signed puts the entire application under a cloud. Revised Draft Denial Letter, Attachment 1, pp. 74 and 75.

In response to the perhaps obvious question, why was the certification that US Steel submitted as Exhibit 1 of its comments of September 2023 not considered to be a supplement to the Application, this exhibit was provided "… with these comments." (US Steel, Comments of September 2023, p. 9.) This document was not actually submitted as a supplement to the Application.[26] By means of the Revised Draft Denial Letter, the Illinois EPA informed US Steel that Exhibit 1 of the September 2023 comments was not considered to be a supplement to the Application. US Steel did not proceed in light of the relevant discussion in the Revised Draft Denial Letter to actually submit the certification that it provided with its September 2023 comments as a supplement to the Application. Also, important, in US Steel's comments of September 2023, an error in the Application was acknowledged.[27, 28] However, the certification that was provided in the September 2023 comments did not acknowledge this error. Accordingly, the comments, themselves, contradicted the certification in Exhibit 1 as to the truth and accuracy of certain information in the Application was true, correct and current. Again, US Steel did not take advantage of the Revised Draft Denial Letter as it discussed this contradiction. US Steel did not act to actually supplement the Application with a certification that acknowledged errors in the Application related to the NOx emissions of Boilers 11 and 12, which had already been identified and

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[26] While the Illinois EPA may add material that it prepares, obtains or receives to the administrative record associated with the review of a permit application, the Illinois EPA cannot by its independent actions alter or amend an application as submitted by the applicant.

[27] As related to NOx emissions from use of coke oven gas (COG) in Boilers 11 and 12, US Steel's comments acknowledge an error in the Application, as follows:

> The emission factor basis listed in Table 6-4 of the permit application is a scrivener's error.
> US Steel, Comments of September 2023, p. 28.

[28] Incidentally, US Steel's Comments of January 2024 acknowledged additional errors in the Application.

acknowledged elsewhere.[29]

Finally, in response to this comment as it expressed concern over the use of the phrase "under a cloud" in the draft denial letters, the meaning or implications that are intended by the Illinois EPA with the use of this phrase are explained in the Denial Letter. In this letter, the sentence in which the phrase "under a cloud" is used are followed by the following, "In other words, as a matter of rule, absent an appropriate certification, the Application is deficient. The Application cannot be considered creditable and should not be relied upon for purposes of making revisions to Permit 95010001."

IV. PURPORTED FAILURE TO BE CONSISTENT WITH PENDING BOARD APPEALS (DENIAL POINT 21)

1. Denial of the Application on This Denial Point Would Be Without Merit

In the draft denial letter, Attachment 1, Illinois EPA asserts that the application must be denied because it does not address all items that are currently under appeal with the Illinois Pollution Control Board (Board). In particular, the Illinois EPA claims, "the application is not consistent with two pending permit appeals before the Board, PCB 0013-53 and PCB 0013-62." Quite strikingly, Illinois EPA cites to no Board order or regulatory or statutory provision to support its assertion. This is for good reason, as there is none. The assertion is without merit. Although it is logical that Illinois EPA might inquire about contested provisions in the appeals before the Board that may appear to be absent in the Application, the absence of such mention is not grounds for denying the Application. While the Illinois EPA has concerns about the Application in the context of the pending permit appeals before the Board, the Illinois EPA cannot claim these concerns as a basis to deny the Application.

This comment does not show that the Application should not be denied based on Denial Point 21. Contrary to what is claimed in this comment, in the Revised Draft Denial Letter, the Illinois EPA did identify the

[29] Alternatively, US Steel did not submit a supplement to the Application to correct the error that had been identified, as is appropriate when an error in a pending permit application is identified. (The error in the Application is improperly characterized as a scrivener's error in US Steel's comments since this error could still be directly corrected by US Steel's own action.) Moreover, as the error in the Application, itself, indicated that NOx emissions of Boilers 11 and 12 had not been correctly calculated, this supplement also would need to include supporting documentation for the corrected emission calculations for these units.

statutory and regulatory provisions that would be the basis of denial of the Application on this denial point. In addition, this comment overlooks and does not respond to statements made in the Revised Draft Denial Letter that provide the reasons and explain why the Application would be denied based on this denial point, which involves emissions limitation for SO_2, lead and CO that are now in Permit 95010001 and are restated in Permit 96030056, the CAAPP permit for the facility. In particular, in this denial point as the reasons why the Application should be denied are specifically addressed, the Illinois EPA explains:

> As the subject limits [limits for emissions of SO_2, lead and CO], as they are or, in the case of PCB 2013-62, would be present in the CAAPP permit, are currently the subject of appeals, it is reasonable for these limitations for the review of the application to be based on compliance not being achieved. Moreover, absent information as described above [information showing that "these limits are now considered acceptable" by US Steel], the 2022 application does not show that, as the subject limits are appealed and could be stayed in any revised CAAPP permit, these limits should be considered to still meet the substantive requirements of the CAAPP. Finally, it is noteworthy that for the subject processes for the various emission factor limits for PM, PM-10, NOx and VOM, the application does request revisions to the emission factor limits. For those requested revisions, the 2022 application, page 2-3, explains that "USS Granite City anticipates that these revisions will enable settlement of the permit appeals currently before the Board because they involve provisions of the permit addressing emission factors."
> Revised Draft Denial Letter, p. 71 and 72.

As this denial point is further discussed, the Illinois EPA explains:

> … the application is not consistent with two pending permit appeals before the Board, PCB 0013-53 and PCB 0013-62, as it does not propose revisions to current permit limits for emissions of SO_2, CO and lead. As previously discussed, in these appeals, US Steel challenged all emission factor limits set by Permit 95010001 for individual process operations. US Steel has not amended these appeals so that they only address emission factor limits for PM, PM_{10}, NOx and VOM and no longer address the t [sic] emission factor limits that are set for SO_2, CO and lead. In addition, in the 2022 application, US Steel does not explain why the emission factor limits in Permit 95010001 for SO_2, CO and lead that were appealed are no longer considered to be objectionable. That is, US Steel would not again challenge those limits as it has already done in PCB 0013-53 and PCB 0013-62 if a revision to Permit 95010001 were issued that continued to include the current emission factor

limits.[Footnote] 84

[Footnote] 84 If the subject emission factor limits were included in a revised permit, the Illinois EPA could explain that, if these limits in the revised permit were stayed pursuant to an appeal to the Pollution Control Board, the limits would continue to be enforceable pursuant to Permit 95010001 as issued before the revision of the permit and any appeal of the revised permit to the Board.

Initial Draft Denial Letter, Attachment 1, p. 47, and Revised Draft Denial Letter, Attachment 1, p. 73.

In summary, the Illinois EPA provided support and explanation in the Draft Denial Letters for denial of the Application based on Denial Point 21. This comment does not even address this information to attempt to show that the Application should not denied based on this denial point.

2. US Steel Did Not Learn of this Concern during Informal Discussions with the Illinois EPA about the March 2020 Permit Application

The permit application submitted in March 2020 was pending for over 2 ½ years before US Steel submitted the Application in October 2022. During this time, the Illinois EPA and US Steel met in person and virtually on several occasions to discuss the PSD permit revisions, yet only in the Initial Draft Denial Letter released in July 2023 did US Steel learn of Illinois EPA's contention that US Steel was obligated to address in its application all items that are currently under appeal with the Board. US Steel's understanding from these discussions was that, with satisfactory issuance of the revised permit, the pending appeals could be dismissed in their entirety.

This observation is immaterial to the denial of the Application based on Denial Point 21.[30] The Illinois EPA is not required to inform or notify an applicant for a state air pollution control permit of deficiencies in its application before taking action to deny the application.

[30] For purposes of the denial of the Application, this deficiency in the Application was one of the last deficiencies that was identified by the Illinois EPA. In the discussions with US Steel about the 2020 application, the concerns addressed by this denial point were likely considered a minor matter that could be readily addressed during the development of a revised version of Permit 95010001 with submittal of an appropriate supplement to the Application by US Steel. However, when the Illinois EPA determined that it needed to begin the process to deny the Application, it was realized that the Application should also be denied as addressed with Denial Point 21.

V. PURPORTED INCONSISTENCY BETWEEN THIS PERMIT APPLICATION AND THE APPLICATION SUBMITTED IN 2008 REQUESTING REVISIONS RELATING TO SO_2 EMISSIONS (DENIAL POINT 20)

1. Information Now Shows That the Sulfur Content of Blast Furnace Gas (BFG) Is Such That Use of BFG Complies with the SO_2 Emissions Limitations Currently in Permit 95010001

In the draft denial letter, Attachment 1, the Illinois EPA asserts that the application must be denied because it, "… is inconsistent with" a separate permit application submitted in 2008. Unfortunately, the Illinois EPA has not acted on the 2008 application and it is still pending. That application was submitted pursuant to a consent decree (Consent Decree, *People of the State of Illinois v. United States Steel Corporation*, Third Judicial Circuit, Madison County, Decree No. 05-CH-750, December 18, 2007). The 2008 application was submitted based on limited information, as was available when it was submitted. Subsequent information indicates that when averaged over a year, the sulfur content of BFG is such that the limit currently in Permit 95010001 for emissions of sulfur dioxide (SO_2) in pounds/million cubic feet (mmcf) of BFG is appropriate.

This comment does not show that the Application should not be denied based on Denial Point 20. The assertion made in this comment for the sulfur content of BFG is not reflected in information provided in the Application.[31] Indeed, neither the Application nor this assertion is accompanied by data for the actual sulfur content of BFG that would confirm that the sulfur content of BFG is such that the SO_2 emissions from burning BFG comply with the existing limitations in Permit 95010001 (6.65 pounds SO_2/mmcf of BFG and 615.22 tons/year, per Condition 22 and

[31] With regard to this topic, the Application explains that it, "…does not request any changes to the emissions limits for SO_2 and lead established in Construction Permit 95010001." (Application, Section 2.2, "General Description of Requested Permit Revisions," p. 2-2.)

Table 4.)[32, 33]

2. The Act and the Illinois Code Do Not Require the Application to Include a Compliance Demonstration for the Current Emission Limitations

In its explanation of how the inconsistency between the application submitted in 2008 and the more recent application is a deficiency, the Illinois EPA claims that the Application "does not meet the standards for issuance of a construction permit" because it does not "show compliance with the SO_2 emission limits for burning BFG that are currently in Permit 95010001." Admittedly, the Application, which does not request any changes to any SO_2 emission limitations in Permit 95010001 does not include demonstration of compliance with these limitations. The Application does not include demonstrations of compliance with any of the dozens of other emission limits that apply to units and operations at the Granite City Works and are unrelated to the application. There is no provision in the Act or the Illinois Code requiring that an application for a construction permit include such compliance demonstrations.

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[32] As explained in the Draft Denial Letters, data for the sulfur content of the BFG produced by the facility and the annual SO_2 emissions from burning BFG is needed for the period prior to 2007 that led up to the Consent Decree and the 2008 application, as well as for the period from 2008 to the present. This is because the sulfur content of BFG could have been higher so that the 2008 application for revision of Permit 95010001 was appropriate when it was submitted.

> Moreover, the existence of the 2008 application suggests that the revisions to SO_2 emission limits that it requested were needed at the time of that application. The 2022 application does not show that this was not the case, as it does not address historic sulfur content of BFG to show that an SO_2 emission limitation for BFG of 6.65 pounds/million cubic feet was appropriate when Permit 95010001 was originally issued in 1996 and that annual SO_2 emissions have never exceeded 615.22 tons/year.
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> Denial Letter, Attachment 1, Denial Point 20.

[33] Incidentally, several things have interfered with work on the 2008 application. These include the amount of effort needed on the initial CAAPP permit for the facility. The first two CAAPP permits issued by the Illinois EPA had to be revised to address deficiencies identified by USEPA in its response to petitions requesting that it object to the permits that had been issued. Then, additional revisions to Permit 95010001 were found to be necessary, as US Steel is now trying to address with the current application. Work on the application for these revisions to this permit was also disrupted by an interruption in production of iron and steel by the facility. This interruption, which began in 2015 and lasted for over two years, meant that it was uncertain that the facility would resume production.

This comment also does not show that the Application should not be denied Based on Denial Point 20. US Steel, itself, has submitted conflicting information in its permit applications. The earlier application indicates that the limits currently in Permit 95010001 understate the SO_2 emissions from burning BFG and needs to be increased. The Application, as it explicitly states that changes to the relevant limits of SO_2 emissions currently in Permit 95010001 are not requested, indicates that revisions to these limits are not needed. In these circumstances, it is appropriate in the context of the Application for US Steel to resolve this conflict.[34] For example, the Application could have shown that the SO_2 emissions from burning BFG do not violate the current limits and the revisions to Permit 95010001 that are requested by the 2008 application are no longer needed. As such a showing has not been made in the Application and US Steel has not resolved this conflict by other means,[35] the Application does not meet the standard for issuance of a permit in Section 39(a) of the Act. That is, the Application does not provide proof that the SO_2 emissions from burning BFG do not violate the applicable limits currently in Permit 95010001. Therefore, the Application must be denied.[36]

3. Prior Discussions with the Illinois EPA

US Steel discussed this topic with the Illinois EPA during informal discussions concerning the application submitted in 2020. The Illinois EPA did not object to this development during those discussions. To now claim that this discrepancy serves as a basis to deny the application is disingenuous. US Steel cannot simply withdraw the 2008 application at this time but would do so following issuance of the requested revised permit and the termination of the Consent Decree. US Steel has indicated it would work with Illinois EPA on that process and remains

[34] As BFG is burned in Project-affected fuel burning units, the emissions of SO_2 from burning or use of BFG are within the scope of the revisions to Permit 95010001 requested by the Application. This is because the Application requests increases in the CO emissions of these fuel burning units from use of BFG.

[35] For example, this inconsistency could have been dealt with through the 2008 application. That application could have been supplemented with relevant data showing that the SO_2 emissions from burning BFG comply with the current limits in Permit 95010001. At most, the only revision to Permit 95010001 that now might be needed would be a clarification that the limit for the rate of SO_2 emissions from use of BFG addresses the annual average rate of emissions or in practice, the measured sulfur content of BFG on an annual average basis. However, this clarification has already been made in the CAAPP permit issued for the facility.

[36] In addition, if the Illinois EPA were to issue a revision to Permit 95010001 without directly addressing SO_2 emissions from burning BFG, the Illinois EPA would potentially be facilitating violation of the current limitations for those emissions. This would be contrary to Subsections 9(b)(2) and 9.1(d) of the Act.

committed to do so.

Informal discussions between an applicant for a construction permit and the Illinois EPA are not relevant to whether an application, as submitted by the applicant, meets the standard for issuance of a permit set by Section 39(a) of the Act. In this case, the Application does not provide proof that the SO_2 emissions from burning BFG do not violate the applicable limits currently in Permit 95010001. Therefore, the Application must be denied.[37, 38]

VI. THE APPLICATION IS SUFFICIENT AS TO THE PSD AIR QUALITY IMPACTS ANALYSIS FOR CARBON MONOXIDE (DENIAL POINTS 5 AND 5A)

1. Introduction

The PSD approval for the Project for carbon monoxide (CO) is provided by Permit 95010001.[39] As explained in the Application, information now

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[37] **US Steel has also not updated the 2008 application to show that that the revision to Permit 95010001 originally requested in that application is no longer needed based on the additional data that is now available for the sulfur content of BFG.**

[38] **This comment does not accurately describe the informal discussions between US Steel and the Illinois EPA on the revisions to Permit 95010001 that are now being requested by US Steel in the Application. As such, the Illinois EPA would contend that this comment is perhaps disingenuous. In these discussions, US Steel was informed that the existence of the 2008 application was an impediment to action on the requested revisions to Permit 95010001. US Steel was also informed that the Consent Decree would need to be revised to remove the provision that required the submittal of the 2008 application before Permit 95010001 could potentially be revised based on the March 2020 application. US Steel indicated that it was pursuing such action with the Illinois Attorney General's Office. However, the relevant requirement of the Consent Decree is unchanged and the 2008 application is still pending. In the informal discussions with the Illinois EPA, US Steel did not suggest that this matter would be dealt with after Permit 95010001 was revised, as now suggested. US Steel has also not explained how this could properly occur given the respective roles of the Attorney General's Office in any revisions to the Consent Decree and the Illinois EPA in any revisions to Permit 95010001.**

[39] The Project was originally permitted as a major modification under the PSD program for emissions of CO and SO_2 because it involved physical and operational changes that would result in significant net increases in emissions of these pollutants. National Steel, then the owner/operator of the Granite City Works, submitted a PSD permit application for this project in 1995. The Illinois EPA granted a PSD approval for the Project in conjunction with issuance of Permit 95010001 on January 25, 1996, presumably determining

suggests that some of the data for CO emissions relied upon when Permit 95010001 was originally issued in 1996 was not representative. During the informal discussions between the Illinois EPA and US Steel, it was recognized that for Permit 95010001 to be revised to reflect appropriate data for CO emissions and allow for more emissions, the application for revisions to Permit 95010001 would need to include a new air quality impact analysis for CO. The Application includes such an analysis.

In the draft denial letter, Attachment 1, the Illinois EPA indicates that one basis for the denial of the application is that the CO air quality impact analysis in the Application, "cannot be relied upon because the inventory for the CO emissions of the source with the Project does not address all CO emissions or otherwise explain why the CO emissions of certain units need not be considered." In particular, the Illinois EPA indicates it has "concern" there may be some CO emissions from the BOF Shop Roof Monitor which are not reflected in the air quality impact analysis. The Illinois EPA also suggests that the analysis should consider the former by-product coke oven batteries, as the Application "does not explain why the air quality analysis does not consider the CO emissions of the former by-product coke oven batteries at the source." In addition, Illinois EPA asserts that the data for ambient background CO concentration used by US Steel, gathered by ambient air quality monitoring conducted by the Illinois EPA during three calendar years, i.e., 2016, 2017, and 2018, is "not necessarily appropriate as a representation of either current ambient air quality or the historic air quality at the time that the Project was originally permitted." None of these concerns detailed by Illinois EPA with respect to the air quality impact analysis in the Application are deficiencies that warrant denial of the Application.

As explained below, in the individual responses to US Steel's comments on the topics that are mentioned in this introductory comment, these comments do not show that the Application should not be denied for the deficiencies in the air quality impact analysis as detailed in Denial Points 5 and 5A.

Moreover, US Steel has not submitted comments related to Denial Point 5 as it addresses uncaptured CO emissions of the blast furnace casthouse, which occur through the roof monitor on the casthouse. In this regard, one of the reasons that the emissions data that was

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that this application included all necessary information for issuance of such an approval. A key requirement of the PSD permit program, which Illinois EPA determined had been satisfied by National Steel's application, is an air quality impact analysis (40 CFR 52.21(k)). For pollutants like CO, for which the USEPA has adopted National Ambient Air Quality Standards (NAQQS), an applicant for a PSD permit must demonstrate that the project will not cause or contribute to a violation of the applicable NAAQS.

provided by National Steel and used in the original permitting of the Project was "not representative" was that the casthouse was not identified as a source of CO emissions. This omission is addressed by the Application as it provides data for both the captured and uncaptured emissions of the casthouse.[40] However, the uncaptured CO emissions of the casthouse are not addressed by the new air quality impact analysis for CO provided as part of the Application.[41] As such, the Application is clearly deficient. The Application requests revision of Permit 95010001 as it provides approval for the Project under the PSD program to address errors in the original permitting of the project, i.e., the use of data for CO emissions from use of BFG in Project-affected fuel burning units that is now known to understate emissions and the failure to recognize and address the casthouse as it emits CO. However, the Application does not fulfill a key requirement of the PSD program for this requested revision because the new air quality impact analysis in the Application does not address the uncaptured CO emissions of the casthouse that are elsewhere addressed in the Application.

2. Provisions of Statutes or Rules or of Guidance Documents Are Not Identified That Indicate That the Air Quality Impact Analysis Must Provide the Listed Information

The Illinois EPA does not identify any provision of the Act or the Illinois Code requiring that a request for revision of a PSD approval include any of the listed information, nor does the Illinois EPA point to even an application form or guidance document suggesting that such information be provided. Of course, Illinois EPA retains authority to request additional documentation in conjunction with a construction permit application pursuant to 35 IAC 201.152, but that was not done here.

In the Revised Draft Denial Letter, the provisions of the Act and the Illinois Code that are the basis of Denial Points 5 and 5A are identified, contrary to what is claimed by this comment. The

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[40] The Application, Section 4.4, "Updated CO Emissions Information for the Blast Furnace Casthouse," p. 4-4, indicates that revised Permit 95010001 should provide for total annual CO emissions from the casthouse of 320 tons/year, with an allowance for 13.6 tons/year of CO emissions that would occur through the roof monitor. (As discussed in response to other comments, the Application improperly refers to the emissions that occur through roof monitors as fugitive emissions, rather than uncaptured emissions.)

[41] For the casthouse, the new air quality impact analysis for CO in the Application only addresses captured emissions, which occur through the vents of the casthouse baghouse and the iron spout baghouse. The analysis does not address uncaptured emissions, which occur through the roof monitor. (Refer to the Application, Appendix C, "Air Quality Modeling Report," the table entitled "US Steel Granite City Point Source Model Input.")

identified provisions of the Illinois Code include 35 IAC 204.1110 of Illinois' PSD rules, which provides the following.

> [35 IAC Part 204] Section 204.1110 Source Impact Analysis
> The owner or operator of the proposed source or modification shall demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other [emphasis added] applicable emissions increases or reductions (including secondary emissions), would not cause or contribute to air pollution in violation of:
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> a) Any NAAQS in any air quality control region; or
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> b) Any applicable maximum allowable increase as set forth in Section 204.900 and/or Section 204.1200, as applicable, over the baseline concentration in any area.

It is well established that an air quality impact analysis required under the PSD program must be based on accurate information for the emissions of relevant units for their emissions of the pollutant whose impacts are being analyzed. In the absence of such information, an air quality impact analysis cannot be relied upon as having made the showing with respect to impacts on air quality that is required to be made under the PSD program for issuance of a new PSD approval or for issuance of a revised PSD approval where the revisions would potentially increase the air quality impacts of a source or project. The Application, itself, discusses USEPA guidance relative to the information for background air quality used in a PSD air quality analysis.[42]

Finally, as discussed in General Response 1, Section 8A of this Responsiveness Summary, it is not necessary for there to be a

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[42] The Modeling Report in the Application explain that:

> The USEPA Monitoring Guidelines [Footnote] [6], other USEPA interpretative guidance, and USEPA administrative decisions clarify that representative, existing air quality monitoring data may be used to fulfill the PSD pre-construction monitoring requirements and establish background concentration needed for assessing NAAQS compliance, in lieu of monitoring data. USEPA's Monitoring Guidelines suggest specific criteria to determine representativeness of off-site data: *quality of data, currentness of the data, and monitor location.*
>
> [Footnote] [6] References: … 6. Ambient Monitoring Guidelines for Prevention of Significant Deterioration, EPA-450/4-87-007, USEPA, May 1987.
>
> Application, Appendix C, "Air Quality Modeling Report," Section 4.4, "Monitored Background Data."

provision of the Act or the Illinois Code, or other guidance that specifies the particular information that must be included in an application for an air pollution control construction permit. The application must include information that is sufficient to provide proof that the facility or equipment that is the subject of the application will not violate applicable provisions of the Act and the Illinois Code. The Illinois EPA's ability to request additional information to remedy deficiencies in permit applications is not provided by 35 IAC 201.152. In the event of deficiencies in a permit application, including deficiencies in the air quality impact analysis for a new or revised PSD approval, the Illinois EPA is not required to request that the applicant submit a corrected air quality impact analysis, before proceeding to deny the application because the analysis is deficient.

3. The Original Permitting for the Project Did Not Address CO Emissions of the BOFs That Occur Through the Roof Monitor on the BOF Shop

As related to the possibility of CO emissions from the BOF Shop Roof Monitor, the Illinois EPA's prior determination for the original issuance of Permit 95010001 was that the Project would not cause or contribute to a violation of the NAAQS for CO was based on there not being CO emissions from this point.

This observation made in this comment is irrelevant as related to the adequacy air quality analysis for CO provided in the application. In the Illinois EPA's review of the new air quality impact for CO, which is necessarily part of the Application, the Illinois EPA is not required to and should not perpetuate what are now recognized as mistakes in the earlier air quality impact analysis for the Project submitted by National Steel.[43] In addition, as the Application requests revisions to the PSD approval for the Project to increase permitted CO emissions of Project-affected fuel burning units, the Application differs from National Steel's application. This analysis in the Application now also addresses the CO emissions of the blast furnace casthouse, which were not even recognized in 1996. Likewise, the

[43] For example, refer to the following statement by the Board in Chemrex, Incorporated v. Illinois Environmental Protection Agency, PCB 92-123, Order and Opinion, February 4, 1993, which, as a matter of principle, confirms that in its review of a new application, the Illinois EPA is not constrained to the decision that was made for an earlier application.

> …the Board believes that the Agency is entitled to change its position, rather than maintain consistency with an incorrect eligibility determination, in light of the fact that there is no statutory provision, regulation or case law that addresses the issue at hand.
>
> PCB 92-123, Opinion and Order, February 4, 1993, p. 7.

analysis must also address all CO emissions of the BOFs, including uncaptured emissions that occur through the roof monitor on the BOF Shop. As explained in General Response 1, Section 8A of this Responsiveness Summary, the Application may not simply rely on past actions or decisions by the Illinois EPA as proof that the revisions to Permit 95010001 that are requested would not violate relevant provisions of the Act and the Illinois Code.

4. The Scope of the Analysis Is Constrained by the Changes to Existing Terms in Permit 95010001 Requested by the Application

The Application does not request any changes to existing terms of Permit 95010001 relative to the CO emissions of the BOF Shop Roof Monitor.

This fact is immaterial under the PSD program. The scope of the air quality impact analysis that is necessary to support certain requested revisions of Permit 95010001 extends beyond the units for which increases in permitted CO emissions are requested. The "preliminary" air quality analysis for the Project (also referred to as the "Step 1" analysis), with the revisions to specific limits that are being requested, shows that the Project, by itself, would have CO air quality impacts on an 8-hour average that are "significant" under the PSD program. (Refer to the Application, Appendix C, "Air Quality Modeling Report," Section 6.1, "Significant Impact Analysis Results," Appendix C, p. 6-1 of the report.)[44] As such, a full air quality analysis (also referred to as a "Step 2" analysis) is required by the PSD program to support the requested increases in permitted CO emissions. In this analysis, the impact of a project on ambient air quality must be determined considering the emissions of 1) The project, itself;[45] 2) Other units at the facility; 3) Units at other facilities in the area around the facility at which the project would occur; and 4) Background ambient air quality as determined by ambient monitoring at a location that is representative of the location of the facility.[46]

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[44] The applicable significant impact level under the PSD program for CO on an 8-hour average is 500 microgram/meter^3 (0.5 milligrams/meter^3). The role of significant impact levels is to determine whether a full air quality impact analysis must be performed under the PSD program. They are not indicative of an ambient concentration that should be of concern for its impacts on human health or the environment. For example, the NAAQS for CO on an 8-hour average (10,000 micrograms or 10 milligrams/meter^3) is 20 times more than the significant impact level.

[45] It is perhaps noteworthy that the new air quality impact analysis in the Application did address CO emissions from Ladle Dryer/Preheaters, which are located in the BOF Shop. The emissions of these units are from burning fuel and are released directly into the BOF Shop. It is conservatively assumed that all of their emissions are discharged to the ambient air through the roof monitor of the BOF Shop.

[46] The air quality impact analysis in the Application follows this hierarchical approach to air quality impact analyses. A full analysis is only provided for

5. **The CO Emissions of the BOFs That Occur Through the Roof Monitor of the BOF Shop**

The Illinois EPA has neither requested that the air quality impacts analysis for CO in the Application address CO emissions of the BOFs that occur through the BOF Shop Roof Monitor, nor has the Illinois EPA provided a quantitative estimate of those emissions. Accordingly, US Steel had no reasonable basis to know that the Illinois EPA had reconsidered its prior determination relating to emissions from the BOF Shop Roof Monitor. It was therefore reasonable for US Steel to conclude that its air quality impacts analysis, with revisions to the CO emission rates only for those emission points where the parties agreed that National Steel's modeled rates should be corrected, was sufficient for the purpose of requesting revisions to the permitted CO emissions from certain Project-affected fuel burning units.

This comment does not show that the Application should not be denied. As explained above, it is not necessary for the Illinois EPA to explain to an applicant for a PSD permit, including an applicant for a revised PSD permit, how to perform a PSD air quality analysis to show that a source or project would not cause or contribute to violations of the applicable NAAQS for a criteria pollutant for which the new or revised PSD approval is needed. There is an extensive body of USEPA guidance addressing how air quality impact analyses are to be conducted under the PSD program.

In addition, the Illinois EPA did, in fact, provide a quantitative estimate in the Draft Denial Letters for the CO emissions that occur through the Roof Monitor on the BOF Shop since estimates for these emissions can be readily made from information for the captured emissions of the BOFs, which occur through the stacks of the particulate control devices.[47] A permit applicant's expectations for the action that the Illinois EPA will take on a construction permit application are not relevant relative to whether the Illinois EPA determines that the application did not meet the statutory criterion

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CO impacts on an 8-hour average. A full analysis is not provided for impacts on a 1-hour average, for which the Step 1 analysis shows impacts would not be significant.

[47] In Footnote 26 of the Revised Draft Denial Letter, the Illinois EPA provided an estimate, 16.1 tons/year, for the CO emissions of the BOFs that occur through the Roof Monitor of the BOF Shop. This estimate is based on the assumption that the capture efficiency achieved by the ESP system for the particulate emissions of the BOFs from refining is 99.9 percent. Using this value for the capture of CO emissions, the CO emissions of the BOFs through the Roof Monitor would be about 0.1 percent of the 16,097 tons/year of the captured CO emissions for which the BOFs are permitted. (16,097 ÷ (99.9 ÷ 100.0) x (100.0 -99.9) ÷ 100.0 = 16.11, ~ 16.1.)

for issuance of the requested permit and whether the application must be denied. Finally, contrary to what is represented in this comment, there was not agreement during the informal discussions between the Illinois EPA and US Steel on the revisions for Permit 95010001 as to the specific revisions to the CO emission data for the units at the Granite City Works that would be appropriate for the new air quality impact analysis for CO.[48] Moreover, even if the Illinois EPA had informally agreed that the CO emission data for other units need not be updated, this would not excuse deficiencies in the air quality impact analysis in the Application as this analysis cannot be relied upon to make the necessary showing required by the PSD program.

6. Emissions of the Former By-Product Recovery Coke Oven Batteries Need Not Be Addressed Because They Are Now Shut Down

As Denial Point 5 addresses the historic CO emissions of the former by-product coke recovery oven batteries, which are now shutdown, the Application does not request revisions to Permit 95010001 that would provide PSD approval or other authorization for the CO emissions of these batteries. There is no basis for considering emissions under a counterfactual scenario in evaluating whether the changes to Permit 95010001 that are requested will cause or contribute to a violation of any NAAQS. This is one of several instances where Illinois EPA appears to be asserting that the Application is deficient because it does not address facts and circumstances that may have existed for some period since 1996 but are no longer present.[49]

This comment is not responsive to Denial Point 5 as it addresses the fact that the CO emissions of the former by-product recovery coke oven batteries are not addressed by the new air quality impact analysis for CO in the Application. As already explained, this denial point involves the

[48] As the application for revisions to Permit 95010001 would involve corrections to the data for the CO emissions of the Project, for purposes of the new air quality impact analysis for CO, it is improbable that the Illinois EPA ever agreed that only corrections to certain emission data needed to be made. In this regard, it is also perhaps relevant that US Steel did make other "updates" to the CO emission data used in the new air quality analysis. In particular, the new analysis addresses the CO emissions of the new cogeneration boiler constructed by US Steel and units at the new heat recovery coke production facility constructed by SunCoke.

[49] To the extent that the Illinois EPA is making such claims, they are without merit, as the requested approval is forward-looking, i.e., is based on the applicable regulations and other circumstances as they exist or will exist at the time of permit issuance. 42 U.S.C. 7410(j). *See, e.g., United States v. EME Homer City Generation, L.P.*, 727 F.3d 274 (3rd Circuit, 2013) (Footnote 4 of US Steel's Comments of January 2024.)

adequacy of the new air quality impact analysis that is part of the Application as the Application requests revisions to Permit 95010001 that would revise the PSD approval for certain units relative to the amounts of CO emissions that are permitted. In particular, as a Step 2 or full air quality impact analysis is necessary under PSD for CO on an 8-hour average, the scope of this analysis is not limited to Project-affected CO emitting units, much less to only Project-affected units for which increases in permitted CO emissions are being requested.

The fact that the by-product recovery coke oven batteries are now shutdown, by itself, is also not a sufficient reason to omit the emissions of units at these batteries from the new air quality impact analysis for CO. These batteries were in operation for almost 20 years following the original issuance of Permit 95010001 in 1996. The Application requests revision of the original PSD approval for the Project to correct errors in the CO emission data that was relied upon for the original permitting of the Project. It would not be unreasonable for the new air quality impact analysis for the Project with certain increases in the CO emissions for which the Project is permitted to address air quality impacts of the Project with the emissions of the former coke oven batteries. Neither the Application nor this comment explain why this would not be reasonable. Indeed, if the Application involved a Project that was not already a PSD major modification for CO, the new air quality impact analysis to support the requested changes to Permit 9501001 would be required to address the CO emissions of the by-product coke oven batteries even though these batteries are now shutdown.[50]

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[50] If the Project were not already permitted as a PSD major modification for CO, the increase in the permitted CO emissions of the Project requested by the Application would explicitly be subject to certain provisions of the NSR rules addressing relaxations of established permit limitations, i.e., 40 CFR 52.21(r)(4), 35 IAC 204.850 or 35 IAC 203(b).* Under the PSD program, the new air quality impact analysis for CO in the Application would have to address the emissions associated with units, like the former by-product recovery coke oven batteries, that are now shut down. This is because the substantive requirements of PSD must be addressed as if construction on the Project had not yet commenced, i.e., as circumstances were in 1996 before the coke oven batteries were shut down.

By way of explanation, these rules address permitting when a source proposes "relaxation(s)" of established permit limitations that restrict emissions of a source or project so that it is not major for purposes of NSR and the source or project would become major with the requested increase in permitted emissions. These rules address situations like those presented with the Application where the requested relaxations or increases in permitted emissions would not be the result of a further physical change or subsequent change in the method of operation of the source or project. In such situations, the substantive requirements of NSR should not be addressed as they are routinely addressed, considering the circumstances at the time of the application and the associated

Finally, as related to whether this denial point would be improper as the review of the Application should be "forward-looking" rather than address a "counterfactual scenario," with a citation to a court decision in a PSD enforcement action, this comment overlooks the fact that the Application requests revisions to Permit 95010001, the construction permit/PSD approval issued for the Project. Then, as related to emissions of CO and NOx, the Application requests revisions to Permit 95010001, and indirectly, by means of Integrated Processing, to Permit 96030056, the CAAPP permit for the facility, to increase emission limitations for CO and NOx in Permit 95010001 that US Steel has violated or potentially violated

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contemporaneous time period. Rather, in such situations, the substantive requirements of NSR must be considered in light of the circumstances that were present at the time that the permit was issued that established the limitations that made the source or modification non-major and that would now be relaxed such that the source or modification would become major. In other words, the substantive requirements of NSR must be addressed as if construction had not yet commenced on the source or project.

This would not be required if a revision to established permit limitation(s) would be due to a further physical change or a subsequent change in the method of operation of the source or modification. In that situation, the change would appropriately be addressed for purposes of NSR separately from the prior permitting of the source or project. The change would be addressed as a new project for purposes of NSR, rather than as a revision to a permitted project. In other words, routine NSR permitting would apply for the permit application for such a change.

* For example, Illinois' PSD rules, 35 IAC 204.850, Relaxation of a Source-Specific Limitation, provide as follows:

> At such time as a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation, established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of Sections 204.810, 204.820, 204.830, 204.840, 204.850, 204.1100, 204.1110 {Source Impact Analysis}, 204.1120, 204.1130, 204.1140, 204.1200, and 204.1400 shall apply to the source or modification as though construction had not yet commenced on the source or modification.

and may violate in the future.[51, 52] This is not the situation that is presented by an after-the-fact enforcement action against a source for the failure to obtain a PSD permit, as is addressed in the cited court decision.[53]

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[51] The CO emissions of Project-affected fuel burning units from use of BFG are currently limited to 13.7 lbs/million cubic feet (mmcf) of BFG* and 1,267.46 tons/year (Permit 95010001, Condition 22 and Table 4). These limits are restated in the CAAPP permit (Permit 96030056, Condition 5.6.2((a)(iii)(B)(2)). These limits are in effect as they were not appealed by US Steel in PCB 2013-053, and, as such, were not stayed by the Board.

The Application indicates that for the revision to Permit 95010001, the maximum overall CO emissions from use of BFG in these fuel burning units should be 26,226 tons/year. This reflects CO emissions of 321.83 lbs/mmcf and 11,064 tons/year from blast furnace stoves; 32.12 lbs/mmcf and 1,228 tons/year from Boilers 11 and 12; and 697.6 lbs/mmcf and 13,934 tons/year from the BFG flare. (Application, p.4-4, Table 4-2 "Updated CO Emissions from Burning Gaseous Fuels.") (This table is not accompanied by calculations in Appendix B of the Application.) The Application explains that, "These requested changes are not based on any post-1996 Project changes but are based on updated information regarding CO emissions." (Application, Section 4, "Changes to Provisions for CO emissions.") The Application does not request that revised Permit 95010001 set an overall limit for the annual CO emissions from burning BFG. It also does not request that the revised permit prescribe the emissions factor(s) that are to be used to determine CO emissions of units for which emission testing is not feasible.

* When Permit 95010001 was revised in 2012, the revised permit erroneously indicated that the limit for the rate of CO emissions from these fuel burning units was in lbs/ton. In this note, this limit is correctly expressed in terms of lbs/mmcf, consistent with the terms of this limit in Permit 95010001 as issued in 1996.

[52] The NOx emissions of the BOF ESP Stack are currently limited to 0.0389 lbs/ton [of steel produced] and 69.63 tons/year (Permit 95010001, Condition 18 and Table 2). The Application requests that revised Permit 95010001 limit the overall captured NOx emissions of the BOF Shop to 400 tons/year. (Application, p. 6-10, Section 6.5.2, "Basic Oxygen Furnace Shop Operations," in Section 6.5, "Requested Changes to Permit Terms Relating to NOx Emissions.") The Application does not address the uncaptured emissions of the BOFs, which occur through the roof monitor on the BOF Shop.

For the Blast Furnace Casthouse, a much smaller increase in the NOx emissions is requested. The Application requests that revised Permit 95010001 limit the overall NOx emissions of the casthouse, including both captured and uncaptured emissions to 24.0 tons/year. (Application, p. 6-9, Section 6.5.1.1, "Proposed NOx Emissions Limitations for Blast Furnace Operations," in Section 6.5, "Requested Changes to Permit Terms Relating to NOx Emissions.")

[53] Interestingly, with respect to the requested changes to Permit 95010001 for the CO emissions of Project-affected fuel burning units, the earlier application, which was submitted in March 2020, requested that revised Permit 95010001 limit the overall CO emissions of these units to 19,343 tons/year (rather than 26,226 tons/year), with this limit addressing emissions from both use of BFG and natural gas. That application also requested that the revised

7. Adequacy of Data for Background CO Air Quality (Denial Point 5A)

As related to the use of 2016-2018 background CO concentration data, this data was the most current quality-assured data available at the time of US Steel's application submittal of March 2020. Use of these data was approved by Illinois EPA following its review of US Steel's dispersion modeling protocol in February 2020. US Steel agrees that the 2016-2018 background CO concentration data is less current now than they were at the time of permit application submittal. "Currentness" of air quality data is one aspect of the permit application review process that is ensured by compliance with the procedural requirements relating to timely processing of permit applications.[54]

This comment does not show that the Application should not be denied for reasons as set forth in Denial Point 5A. As explained in the revised Draft Denial Letter, there are two issues with the value for background air quality used in the air quality impact analysis in the Application. The first is that the value selected for background air quality does not represent air quality in the period prior to 1996 when Permit 95010001 was originally issued. This is the same issue as is posed by the omission of the CO emissions of the former coke oven batteries from the analysis, as discussed above. If US Steel can satisfactorily resolve this issue, the second issue is that the value for background is no longer necessarily representative of current air quality. Five years have passed since the period from which the value for background used in the Application was obtained. The Application

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permit prescribe the emission factors that are to be used for certain units when determining ongoing compliance with the annual emission limit. For the BFG Flare, the proposed factor was 350 lbs/mmcf, which is significantly lower than the factor used in the Application when updating CO emissions. For the Blast Furnace Stoves, the proposed factor, 322 lbs/mmcf, was essentially the same as the factor used in the Application. For use of natural gas in units other than Boilers 11 and 12, the proposed factor was 84 lbs/mmcf. Only the CO emission of the boilers were proposed to be determined using emission factors from periodic testing. The factor that was proposed for use of natural gas in units other than the boilers, 84 lbs/mmcf, is the same factor used in Table 4-2 of the Application when updating CO emissions of fuel burning units from use of natural gas. (In this regard, it is assumed that CO emissions from all use of natural gas by such units is addressed in Table 4-2 although this table only indicates that emissions from use of natural gas by boilers and the ladle dryer/preheaters are addressed.)

[54] See, Section 165(a) of the federal Clean Air Act (requiring final action on any [completed] PSD permit application not later than one year after filing [of such completed application]). Also see, 35 IAC 201.158 (providing that a state air pollution control permit application shall be deemed to have been filed 30 days after submittal if Illinois EPA has not notified the applicant that it is incomplete) (Adapted from Footnote 5 of US Steel's Comments of January 2024.)

does not explain why this value for background should still be considered representative. In this regard, while monitoring for CO at the station in East St. Louis ceased in early-2019,[55] a value for background could be obtained from another monitoring station in the St. Louis area. The Application does not explain why use of a value for background that is no longer current should still be accepted as being representative for the air quality impact analysis in the Application compared to a current value for background that is available from another monitoring station.[56]

Lastly, final action on the Application was not required by October 2023 pursuant to the provision of the Clean Air Act cited by this comment. This deadline applies to the processing of a complete PSD application. It provides that a complete PSD application shall be granted or denied within one year from the date of filing of the complete application. The Application is not complete because it has substantive deficiencies, as have been detailed in the Draft Denial Letters, of which only one relates to the value for background used in the air quality impact analysis. Moreover, even if the Application were considered to now be complete, the failure of the Illinois EPA to meet the one year deadline for final action on an application for a PSD permit would not preclude denial of the Application as deficiencies are or would be identified were such that the requested PSD approval could not be issued.[57]

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[55] Ambient monitoring is still conducted at the Illinois EPA's monitoring station in East St. Louis for SO_2, nitrogen dioxide (NO_2), ozone, and particulate matter$_{2.5}$ ($PM_{2.5}$).

[56] With regard to the selection of the monitoring station used to obtain the value for background air quality, the Application states the following:

> There are many existing ambient CO monitors within 100 miles in [sic] the facility (Figure). Existing monitoring data have been evaluated in relation to the criteria provided in USEPA's Ambient Monitoring Guidelines as being representative of the US Steel site.
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> [Figure 4 is entitled "Ambient Air Quality Monitors in the Vicinity of the US Steel Facility. This figure is a downloaded image of a satellite map whose function is to show the location of ambient monitoring stations, as obtained from an interactive map on a USEPA website. https://epa.gov/outdoor-air-quality-data/ineteractive-map-air-quality-monitors.]
>
> Application, Appendix C, Air Quality Monitoring Report, Section 4.4. "Monitored Background Data," p. 4-5 of the report.

However, the Application does not include documentation for the evaluation of the stations at which ambient monitoring for CO was conducted by US Steel or its consultant.

[57] Whether the Application is considered to be "complete" under 35 IAC 201.158, as also cited by this comment, is not relevant to the denial of the

Finally, the fact that prior to March 2020, the Illinois EPA informally provided preliminary approval for the background air quality data used in the air quality impact analysis for CO in the 2020 application does not show that the Application should not be denied for reasons associated with the continued use of such data from that time period in the Application, as discussed in Denial Point 5A in the Revised Draft Denial Letter.[58] The Application was submitted in October 2022, more than two years after the 2020 application.

VII. THE PERMIT APPLICATION IS SUFFICIENT AS TO BEST AVAILABLE CONTROL TECHNOLOGY (BACT) FOR CARBON MONOXIDE (DENIAL POINT 18 (CO) AND DENIAL POINT 19 (SO_2 and CO)

Application. This rule addresses whether a state air pollution control permit application is considered complete as an administrative or initial matter. In general, if the Illinois EPA finds an application for a state air pollution control permit is not complete within 30 days of the date it is received, the Illinois EPA may take action on the application by means of a notice of incompleteness. In this notice, the Illinois EPA need only identify the deficiencies that it finds with the application, i.e., the information or showings that are missing from the application. As a matter of practice, after 30 days, the Illinois EPA also routinely requests information that is missing from the application by means of a request for additional information. Assuming the applicant supplements or revises the application to rectify deficiencies, the Illinois EPA must issue a permit if the application then meets the standard for issuance of a permit. Otherwise, if the deficiencies in the application are not rectified or the standard for issuance of a permit is not met, the application must be denied, as provided for by Section 39(a) of the Act. An application may also be directly denied by the Illinois EPA if it does not meet the standard for issuance of a permit irrespective of whether the application is considered complete pursuant to 35 IAC 201.158 or the denial could have been preceded by a request for additional information.

[58] It is noted that for background air quality for CO, 8-hour average, the air quality impact analysis in the Application uses a higher value, 1,646 micrograms/m^3, than used in the analysis in the 2020 application, 1,349 micrograms/m^3. The value for background used in the Application is a "maximum" concentration, 8-hour average, measured at the monitoring station in East St. Louis. The value used in the 2020 application was the "highest-second-highest" concentration measured in any year in the three years of ambient monitoring at this station that were used to obtain a background concentration. This value is consistent with the terms of the NAAQS for CO as they set numerical values for the concentration of CO in the ambient air that should not be exceeded more than once per year. The analysis in the Application does not explain why it uses a maximum value for background air quality rather a highest- second-highest concentration, as was done in the 2020 analysis.

A. **Introduction (Denial Point 18)**

The pertinent provision of the PSD rules governing the required contents of a PSD application relative to the establishment of Best Available Control Technology (BACT) provide that a PSD application must include:

> A detailed description as to what system of continuous emission reduction is planned for the source or modification, emission estimates, and any other information necessary to determine that best available control technology would be applied.
> 40 CFR 52.21(n)(1)(iii) (See also 35 IAC 204.810(a)(3)).

In the draft denial letter, Attachment 1, the Illinois EPA asserts that the application "lacks necessary information" for it to make BACT determinations for CO for the casthouse and the blast furnace stoves. It is undisputed that the Application includes estimates of the CO emissions from the casthouse and the blast furnace stoves. The Application also includes as a detailed description of the systems of continuous emission reduction that US Steel plans to use to control these emissions.

This comment does not show that the Application should not be denied for reasons as detailed in Denial Point 18. In this regard, the Application would not be denied because it does not include the specific information required by the PSD rules addressed in this comment, i.e., "a detailed description as to what system of continuous emission reduction is planned for the source or modification" and "emission estimates." The Application would be denied because it does not show that BACT would be utilized or applied for CO for emissions units as required by the PSD rules. In other words, the Application does not include "any other information necessary to determine that best available control technology would be applied," as is also explicitly required by the PSD rules.[59]

Moreover, with regard to BACT for the casthouse, the Application does

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[59] It is also noteworthy that the introductory paragraph of 35 IAC 204.810 imposes a broad requirement on the information that an applicant for a PSD permit must submit in its application, as follows:

> The owner or operator of a proposed major stationary source or major modification shall submit all [emphasis added] information necessary to perform any analysis or make any determination required under this Part [35 IAC Part 204].

not actually identify the system of continuous emissions reduction (i.e., BACT Technology) used for CO emissions of the casthouse, much less provide a description of such system. Rather, for the casthouse, in Section 8.2.3, "BACT Evaluation for Blast Furnace Casthouse," the Application addresses add-on combustion control systems. (Add-on combustion control systems, commonly known as afterburners reduce the concentration of a combustible pollutant, like CO, in an exhaust stream by subjecting the stream to the temperature at which the pollutant combusts). The Application shows that these systems, even if feasible, would have cost impacts that should be considered excessive and should not be required to be utilized for BACT. This provides certain information that is relevant for the determination of BACT for the casthouse, as it eliminates certain emission control options for consideration as BACT. However, it does not address what system of emission reduction would be utilized for CO to meet BACT instead of add-on control systems.

With regard to BACT for the blast furnace stoves, the Application does identify the system of continuous emissions reduction or technology used for CO emissions, i.e., certain work practices related to good fuel combustion by the stoves that act to lower CO emissions. However, the BACT analysis in the Application does not provide other information necessary to determine that best available control technology BACT would be applied. In particular, the Application, again, does not include information necessary to conclude that BACT need not be set as numerical emission limitation(s).[60] The Application does describe certain aspects of the blast furnace stoves, e.g., their age and height, that might affect whether it would be reasonable to set BACT for the stoves as numerical standards, such that emissions testing would be needed to confirm compliance. However, the Application does not describe the technological challenges and the costs that the identified aspects of the stoves would present for emissions testing, such that BACT need not be set as numerical emission standard(s).

B. CO Emissions from Blast Furnace Casthouse (Denial Point 18)

B1. It Is Unclear Why the BACT Analysis in the Application is Deficient Because It Does Not Include Information of Process-Related Control Options As BACT for CO Emissions of the Casthouse

[60] In the PSD rules, the definition of BACT provides that:

> ...If the Administrator determines that technological or economic limitations on the application of measurement methodology to a particular emissions units would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard, or combination thereof may be prescribed instead to satisfy the requirement for application of best available control technology. ...
> 40 CFR 52.21(b)(12) and 35 IAC 204.280.

For the blast furnace casthouse, as discussed in Section 8.2.3 of the Application, the only control options identified for potential consideration in a BACT determination are add-on air pollution control equipment options, specifically, installation and use of a capture system and some type of afterburner. The Illinois EPA asserts that this part of the application is deficient because it provides neither an explanation of "why process-related control options are not available" nor, with respect to the literature search conducted by US Steel that did not identify any process-related control options for CO emissions from casthouses, "documentary support for the review of available control options that was conducted." It is unclear to US Steel how it would be helpful to Illinois EPA's BACT determination to have copies of reports that contain no pertinent information, and it is even more unclear how US Steel might be expected to know, without receiving from Illinois EPA a request for specific additional information, which reports containing no pertinent information would be most valuable for this purpose.

This comment also does not show that the Application should not be denied based on Denial Point 18. This comment overlooks the interplay between the definition of BACT, the determination of BACT required by the PSD rules as BACT-subject units would be addressed by a PSD approval, and the standard for issuance of state air pollution control permits in Section 39(a) of the Act. As acknowledged in the Application, p. 8-4, Section 8.2.1.4, "Available Control Options," the definition of BACT provides that BACT can involve process-related control measures, as well as end-of-pipe, add-on emission control systems. The Application claims, based on a review that was conducted, that the only control options that are potentially available as BACT for CO emissions are add-on control systems.[61] As such, the Application effectively also makes another, related claim, based on the review that was conducted. This is that other than add-on afterburner

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[61] In the Application, in Step 1 of the Top-Down BACT Analysis for the casthouse, in which available control options (i.e., air pollution control technologies and techniques with a potential practical application to CO emissions of the casthouse), are to be identified, the Application explains:

> Based on a review of BACT determinations in U.S. EPA's RBLC [RACT/BACT/LAER Clearinghouse] database and other literature, the control options that are potentially available to control CO emissions from the blast furnace casthouse are:
>
> * Capture system and thermal incineration and
> * Capture system and catalytic incineration
>
> Application, Section 8.2.3.3, "Step 1 – Identify Available CO Control Options," in Section 8.2.3, "BACT Evaluation for Blast Furnace Casthouse," in Section 8, "Best Available Control Technology for CO," p. 8-8.

systems, there are no other available BACT options for control or reduction of the CO emissions of the casthouse, such as work practices or operational requirements. It is because of this that the Application must provide documentation for the review that was conducted for available control options. As the Application relies on this review to summarily dismiss all possible control options from the BACT analysis other than afterburner systems, it is necessary for this review be documented in the Application. In the absence of such documentation, the Application does not show that control options other than add-on afterburners are not available for the casthouse. In addition, the Illinois EPA and other interested parties cannot independently examine the Application and to even consider whether the review that was conducted was adequate to be considered proof that BACT is or would be used for the CO emissions of the casthouse.

Moreover, the conclusion reached by the Application based on the review that was claimed to be conducted is inherently deficient. If a review of the literature indicates or, by omission, suggests that add-on control technology is not used for control of CO emissions of casthouses, which is likely the case, the issue for the revision to Permit 95010001, is what work practices or other "non-add-on" methods of continuous emission reduction should be imposed as BACT by Revised Permit 95010001. The Application does not address this issue.[62] As the Application suggests that there are not any such methods of continuous emission reduction, the Application inherently acknowledges that it does not propose BACT for CO for the casthouse.

B2. The Illinois EPA Is Familiar with the Chemical Reactions in Blast Furnaces That Yield CO As a By-Product

As to this purported deficiency in the Application related to the casthouse, the Illinois EPA is familiar with the chemical reaction that is intentionally forced to occur in the casthouse as an inherent part of the ironmaking process.[63] Having not received from Illinois EPA

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[62] It would be surprising if US Steel were not able to directly address this issue. Personnel involved with the operation of the casthouse at the facility and at other US Steel facilities that have or had blast furnaces, likely have the knowledge and experience of the practices that reduce the carryover of CO with the metal and slag that are tapped from a blast furnace.

[63] See, *e.g.*, "Statement of Basis for the Planned Issuance of a Revised Clean Air Act Permit Program (CAAPP) Permit for: United States Steel Corporation, Granite City Works," Illinois EPA (February 4, 2013) p. 4, ("The charge materials (iron ore, coke, limestone and other flux material) are fed into the furnace at the top through a double-bell lock system. Heated air is blown into the furnace through nozzles or tuyeres near the bottom of the furnaces. In the furnaces, the coke undergoes partial combustion to carbon monoxide providing the heat to melt the charge as well as reducing the iron ore to elemental iron.") (Footnote 7 of US Steel's Comments of January 2024.)

a request for specific additional information, US Steel had no way to know that it was necessary to explain in the Application that the partial combustion of coke inevitably yields CO as a reaction product.

This comment does not show that, as related to the casthouse, the Application should not be denied based on Denial Point 18. The issue for this denial point is again the information provided in the Application and what the Application shows or proves. Even if the claim made in this comment as to the knowledge of the Illinois EPA concerning the reason that casthouse emits CO were actually correct, it would be immaterial to the denial of the Application.[64]

Moreover, this comment actually discusses the formation of CO in the blast furnaces, not the CO emissions of the casthouse.[65] Indeed, the information in this comment concerning the CO emissions of the casthouse is inconsistent with information in the Application. For the casthouse, the Application indicates that, "These [CO] emissions are a consequence of the relatively small amount of BFG that leaves the furnaces with the molten metal and slag during the tapping process." (Application, p. 4. Section 4.1.1, "Blast Furnace Casthouse," in Section 4-1, "Process Background and Project.") Accordingly, assuming that the Application accurately describes why the casthouse emits CO, it was appropriate in the BACT analysis for the casthouse in the Application to discuss the systems of continuous emission reduction (i.e., work practices or operational requirements) that are currently used and could potentially be used to reduce the amount of CO in the iron and slag tapped from the blast furnaces. These measures could involve both the operation of the furnaces and the tapping process, itself, as they act or could act to reduce the CO emissions of the casthouse.

B3. Applicable Rules Do Not Require BACT for the Casthouse for CO

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[64] It is also not reasonable to assume that the occurrence and cause of the CO emissions of blast furnace casthouses is understood by the Illinois EPA. If the presence of these emissions had been recognized by the Illinois EPA in 1996, it might have been raised by the Illinois EPA during the initial permitting of the Project since National Steel's permit application did not address these emissions.

[65] Information is readily available explaining how the production of iron by a blast furnace generates CO. This CO, as well as carbon dioxide and other gases generated by the chemical reactions in the furnace, are collected at the top of the furnace. The collected gas is scrubbed to remove entrained dust. The resulting low-heat content, by-product gas stream is then used as fuel in various units at the facility that are designed and equipped to burn it, notably in the blast furnace stoves.

For the CO emissions of the casthouse, US Steel is currently not subject to any emission limitations and it has not requested any revisions to Permit 95010001 to establish such limitations. US Steel is also not subject to any work practice requirements for the casthouse related to CO emissions, since the work practices required by 40 CFR Part 63 Subpart FFFFF involve measures to control particulate emissions. US Steel did not include any information pertaining to BACT for CO emissions from the casthouse in the application submitted in March 2020. At the request of Illinois EPA, although under no obligation to do so,[66] US Steel voluntarily provided a BACT analysis for the casthouse in the Application. Illinois EPA's proposed denial of the Application will simply ensure the status quo is maintained, i.e., that US Steel is not subject to any limitations on CO emissions from the casthouse.

This comment does not show that the Application should not be denied because of a deficiency in the BACT analysis for the casthouse, as addressed in Denial Point 18. It is first noted that, contrary to what is claimed in this comment, the Application does request a revision to Permit 95010001 to establish BACT for CO for the casthouse. The Application proposes a BACT limit for the captured CO emissions of the casthouse of 70 pounds/hour.[67] This comment is also misleading as it suggests that US Steel simply included a BACT analysis for the casthouse in the Application because the Illinois EPA requested such an analysis. The revision to Permit 95010001, as would be initiated by US Steel's application, provides US Steel, as well as the Illinois EPA,

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[66] *See, e.g., U.S. v. Midwest Generation, LLC*, 781 F. Supp. 2d 677 (N.D. Ill. 2011)(holding that source owner's obligations with respect to BACT are limited to those imposed in a PSD permit). (Footnote 8 of US Steel's Comments of January 2024.)

[67] In the Application, the BACT analysis for the casthouse concludes as follows:

> USS Granite City proposes a CO emission limit of 70 lb/hr, combined for the casthouse baghouse and iron spot baghouse, as BACT for the blast furnace casthouse. This proposed limit is as stringent as any identified limit for a blast furnace casthouse at any similar facility. [Footnote 1 48.
>
> [Footnote] [48] The only CO emission limit identified for a blast furnace casthouse is a limit of 56.25 lb/hr for the casthouse baghouse stack at the Dearborn (MI) Works, currently owned and operated by Cleveland Cliffs. This casthouse has a permitted iron production rate of 8,000 tons per calendar day. See https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Permits/AQD/PTI/applications-of-interest/PTI-182-05C-Severstal-Conditions-2014-05-12.pdf (last accessed Sept. 23, 2022).
>
> Application, p. 8-10, Section 8.2.3.7, "Step 5 - Establish CO BACT, in Section 8.2.3, "BACT Evaluation for Blast Furnace Casthouse."

with the opportunity to resolve and put to rest through permitting an error in the original PSD approval for the Project as it overlooked the casthouse as a source of CO emissions.[68] This "clean up" would occur in conjunction with a revision to the PSD approval that is already sought by the Application and is necessary because Permit 95010001 currently limits the CO emissions of the blast furnace stoves to much less than US Steel now believes is representative or correct, i.e., CO emissions of only 1,267.46 tons/year, rather than 11,064 tons/year as now requested for the stoves by the Application. For the Illinois EPA to also revise the PSD approval provided by Permit 95010001 to allow for CO emissions from the casthouse, necessarily requires that the relevant substantive requirements of the PSD rules be fulfilled.

The CO emissions of the casthouse must be addressed by the new air quality impacts analysis for CO in any case as this analysis is a necessary prerequisite to increasing the permitted CO emissions of the blast furnaces stoves. Accordingly, for the casthouse, itself, the substantive requirement of the PSD program that is of specific concern is the BACT requirement. The Application includes a BACT analysis for the CO emissions of the casthouse. Unfortunately, this BACT analysis is deficient as it overlooks the need to also directly consider implementation of measures to control or reduce CO emissions other than add-on afterburner technology. This was likely inadvertent since good combustion practices, an emission control technique other than add-on control technology, are proposed as BACT for the stoves. Nevertheless, the fact that the BACT analysis for the casthouse in the Application does not address use of control measures for the casthouse other than add-on control systems means that the Application does not show that BACT is or will be used on the casthouse for CO. For the Illinois EPA to knowingly overlook this fact would be improper. Absent a full BACT analysis, one cannot know whether BACT for the casthouse for CO would simply formally recognize the measures that have been and are currently used or whether BACT would act to lower the CO emissions of the casthouse as BACT would entail use of additional practices to reduce CO

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[68] It is also noteworthy that the court decision cited by this comment does not address the circumstance that are now presented with the PSD approval provided by Permit 95010001. That decision involved an after-the-fact enforcement action where the owner of a source did not obtain the PSD approvals that were alleged to be needed for certain major modifications. However, National Steel did obtain a PSD approval for the Project. US Steel is now responsible for the Project and is operating pursuant to the PSD approval originally issued to National Steel. US Steel, not National Steel, has requested revisions to the PSD approval for the Project as it addresses the CO emissions of the blast furnace stoves, as well as other revisions to Permit 95010001. As National Steel's original application and the original permitting of the Project were in error, as they failed to address the CO emissions of the casthouse, the only way to now address this error through permitting is with issuance of a revised PSD approval that also addresses the CO emissions of the casthouse.

emissions.

C. C. CO Emissions from Blast Furnace Stoves (Denial Point 18)

C1. The Determination of BACT for the Stoves Proposed by the Application Is Consistent with PSD Rule Requirements

In the original application for Permit 95010001, National Steel made the following proposal:

> BACT literature indicates that blast furnace stoves at steel mills are not using add-on control equipment for CO emission control. CO emissions can be adequately controlled by the use of good combustion practices. Therefore, the BACT recommendation for control of CO emissions from the blast furnace stoves is the maintenance of present good combustion practices.
>
> National Steel, Original Application, Supplement October 30, 1995, pp. 4-10 and 4-11, Section 4.3.4.1, "BACT - Blast Furnace Stoves," in Section 4.3.4, "Selected BACT - CO," in Section 4.0, "Best Available Control Technology Review.".

This comment does not show that the Application should not be denied because of Denial Point 19. If revised Permit 95010001, as it provides PSD approval for the Project for CO, is to be revised to increase the permitted CO emissions of the blast furnaces stoves as requested by the Application, a new determination of BACT is required under the PSD rules. The BACT determination for the CO emissions of the stoves that is reflected in Permit 95010001 was made decades ago when Permit 95010001 was originally issued, As discussed in General Response 1, Section 8A of this Responsiveness Summary, the discussion of BACT in National Steel's application, which was the foundation for the original issuance of Permit 95010001, does not constrain the BACT determination that is now required for the stoves for CO. Moreover, this new determination of BACT is not a trivial matter as the Application requests a substantial increase in the CO emissions for which the stoves are permitted, i.e., CO emissions of 11,064 tons/year rather than emissions 1,267.46 tons/year. As the BACT analysis in the Application does not show that BACT would be used for the stoves, it is appropriate for the Application to be denied.

C2. The Determination of BACT for the Stoves Proposed by the Application Is Consistent with PSD Rule Requirements

As discussed in Section 8.2.1.1 of the Application, the proposed BACT determination for the stoves is consistent with the PSD rules. For the BACT requirement, the PSD rules expressly provides for a PSD permit to prescribe work practices to satisfy the BACT requirement where the

permitting authority, "determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible." 40 CFR 52.21(b)(12) and 35 IAC 204.280.

In the Application In the discussion of Step 5 of the proposed BACT analysis for CO for stoves, the Application states as follows in Section 8.2.2.6:

> USS Granite City is proposing work practice requirements rather than numeric limits as BACT. Numeric emission limitations are not proposed because direct measurement of emissions, i.e., use of a USEPA reference test method, is not feasible for any of the fuel emissions units subject to the BACT requirements for CO emissions. In particular, for the stack serving the blast furnace A stoves, there is no sampling port,[Footnote]45 and for the stack serving the blast furnace 3 stoves there is no sampling port satisfying the location requirement in U.S. EPA Reference Method 1. [Footnote] 46 Each stack is refractory lined and is believed to be approximately one hundred years old.
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> For the reasons presented above, numeric CO emission standards are not feasible for the blast furnace stoves.
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> Footnote 45. For the one-time exhaust gas sampling event discussed in footnote 19 of this permit application, USS Granite City inserted a sampling probe into the stack through a pipe used to inject steam into the stack.
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> Footnote 46. Appendix A-1 to 40 CFR part 60.

The BACT analysis in the Application is deficient relative to relevant requirements of the PSD program because it does not show that, "technological or economic limitations on the application of measurement technology to a particular emissions unit would make the imposition of an emission standard infeasible, …." This showing is required by 40 CFR 52.21(b)(12) or 35 IAC 204.280, the definitions of BACT in the PSD rules. While the Application describes certain aspects of the stacks for the stoves, the Application does not show that emissions testing should be considered infeasible due to technological or economic limitations associated with the stacks for the stoves. The Application does not explain why the facts that the stacks for the stoves are not currently fitted with test ports, are refractory lined, and are approximately 100 years old create technological limitations such that installation of test ports that would meet USEPA Reference Method 1 should be considered infeasible. The Application also does not include estimates for the costs that would be entailed in installation

of such ports to explicitly show why emission testing should be considered infeasible because of the economic impacts that would be imposed if emission testing were required as BACT for the stoves was set as emission standard(s). As such, the Application does not show that the proposed use of good combustion practices as BACT should be accepted in lieu of numerical emission standard(s).

C3. The Application Does Not Identify Statutory or Regulatory Provisions That Require the Application to Include the Indicated Information

In the draft denial letter, Attachment 1, the Illinois EPA makes the following assertion:

> Further support is needed for the claim that measurement or testing of emissions of the blast furnace stoves is infeasible. While certain information about the stoves is provided, the application does not directly address the technological issues or costs that would be entailed to install suitable ports for testing on one or both sets of blast furnace stoves. For example, the application does not include diagrams for the existing ductwork of the stoves to address whether the configuration of this ductwork would accommodate installation of test ports at a location that would satisfy USEPA Reference Method 1. The application also does not show how the refractory lining on the stacks or their age, approximately one hundred years old, would present significant technical challenges and costs so that the installation of test ports at a suitable location should be considered infeasible. The application also does not show that there are other challenges that would need to be addressed or issues that should be considered, such as requirements of the Occupational Safety and Health Administration (OSHA), that would affect the technical feasibility and cost of installing suitable test ports on the stoves.

With respect to both Illinois EPA's general suggestion that "further support" is needed and its list of specific examples, Illinois EPA does not identify any provision of the Act or the Illinois Code requiring that a PSD permit application include any particular supporting information, nor does the Illinois EPA point to even an application form or guidance document suggesting that such documentation or additional explanation be provided. Of course, Illinois EPA retains authority pursuant to 35 IAC 201.152 to request additional documentation in conjunction with a construction permit application, but that was not done here.

Contrary to what is suggested in this comment, the statutory and regulatory basis for this deficiency in the Application are provided

in the Revised Draft Denial Letter. The regulatory provisions include the definition of "Best Available Control Technology (BACT)," 35 IAC 204.280; the definition of "complete," 35 IAC 204.330; the information that an applicant for a PSD approval must submit, 35 IAC 204.810; and the BACT requirement for a major modification, 35 IAC 204.1100(c).

In addition, as discussed in General Response 1, Section 8A of this Responsiveness Summary, it is not necessary for there to be a provision of the Act or the Illinois Code, or other guidance that specifies the particular information that must be included in an application for an air pollution control construction permit. The Illinois EPA's ability to request additional information to remedy deficiencies that are identified in permit applications is not provided by 35 IAC 201.152. The Illinois EPA may directly proceed with denial of an air pollution control permit application without requesting that the applicant supplement or revise the submitted application.

C4. When the Illinois EPA Issued the CAAPP Permit In 2013, It Determined That Work Practices Suffice AS BACT for the Blast Furnace Stoves

In 2013, when issuing Permit 96020056, the CAAPP permit for the facility, the Illinois EPA again determined that work practices suffice for the blast furnaces stoves for purposes of demonstrating compliance with the applicable requirements of Permit 95010001.[69]

The observation made by this comment is not correct and does not contribute anything to a discussion of the BACT analysis in the Application for the CO emissions of the stoves. The Illinois EPA did not reexamine the established determination of BACT for the stoves for CO when it issued Permit 96030056 in 2013, as suggested by this comment. Indeed, when issuing a CAAPP permit, the Illinois EPA's authority does not extend to formally reviewing and potentially revising BACT determinations made in PSD approval(s) for units and activities at a source. The Illinois EPA's authority with respect to such determinations, as it also is for the applicable emission

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[69] *See*, CAAPP Permit 96030056, Conditions 7.4.12(a) and (b). Condition 7.4.12(a) explains that for blast furnace processes, compliance with applicable standards of Condition 7.4.3 is addressed by, "the work practices, testing, monitoring, recordkeeping, and reporting requirements" in Section 7.4 of this permit. Conditions 7.4.12(b) explains that compliance with the production/emission limits of Condition 7.4.6 and 5.6.2 is addressed by, "the work practices, testing, monitoring, recordkeeping, and reporting requirements in Sections 7.4 and 5 of this permit." Note that Permit 96030056 does not include any testing, monitoring, recordkeeping, or reporting requirements specific to the blast furnace stoves. (Adapted from Footnote 11 of US Steel's Comments of January 2014.)

standards of relevant rules, is restricted to imposing associated compliance procedures (in the terminology of the CAAPP, periodic monitoring) if the existing BACT determination or emission standard does not adequately address how compliance is to be assured with such determination or standard on an ongoing basis. The CAAPP program does not contemplate substantive changes to established BACT requirements being made during the issuance of CAAPP permits since such changes are appropriately made by issuance of a new or revised PSD permit.

Moreover, this comment implies that Permit 96030056 requires use of good combustion practices as BACT for the stoves. Then, presumably because use of such practices is inherent in the day-to-day operation of the stoves, the Illinois EPA did not deem it worthwhile or necessary in 2013 in Permit 96030056 to impose any associated compliance procedures related to the use of good combustion practices for the stoves, i.e., requirements for operational monitoring and/or recordkeeping to verify implementation of good combustion practices. Accordingly, this comment argues that Denial Point 18, as it involves the absence of certain information from the Application related to BACT for the stoves, is unwarranted. However, this argument is not relevant because the increase in permitted CO emissions requested by the Application necessitates making a new BACT analysis and, potentially, a new determination of BACT in revised Permit 95010001. In this regard, the Application requests an almost nine-fold increase in the CO emissions of the stoves, with an overall increase in the CO emissions for which the Project is permitted. This argument is also not valid because Permit 96030056 does not require use of good combustion practices as BACT to reduce or control for CO emissions.[70] This is as should be expected since Permit 95010001, itself, does not require use of good combustion practices as BACT for the stoves. There is nothing with regard good combustion practices for the stoves that had to be restated in Permit 96030056. Thus, it is not surprising that Permit 96030056 does not include compliance procedures related to use of good combustion practices for the stoves since Permit 95010001 does not actually require use of such practices. Further inferences should not be drawn from the fact that Permit 96030056 does not include compliance procedures for the use of good combustion practices.[71]

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[70] If anything, the BACT determination for the stoves for CO made in Permit 95010001 are the emission factor limits set by this permit, i.e., CO emissions of 40.0 lbs/mmcf for natural gas, 13.7 lbs/mmcf for BFG and 5.0 lbs/1,000 gallons for fuel oil (Permit 95010001, Condition 22 and Table 4). These limits are repeated in Permit 96030056 (CAAPP Condition 5.6.2(a)(iii)(B).) Unlike Permit 95010001, Permit 96030056 provides for emission testing to confirm compliance with these limits (Condition 5.7). Recordkeeping is also required to verify compliance with these limits (Condition 5.9.1(c) and (d)).

[71] In the original application for Permit 95010001, National Steel addresses use of good combustion practices for the blast furnace stoves, explaining, "Good combustion practice is the inherently lowest emitting method of

C5. The Application Provides All Required Information

The documentation provided in the Application regarding infeasibility of emissions testing is more extensive than the documentation provided in the original permit application submitted by National Steel and accepted by Illinois EPA when originally issuing Permit 95010001. The Application includes all information required by the applicable permitting rules and the PSD rules relating to BACT for CO emissions from the stoves.

Whether the Application has "more information" than National Steel provided in its application about the infeasibility of emissions testing for the blast furnace stoves is immaterial as to whether the Application is deficient.[72] The Application does not include information showing that emissions testing is infeasible for the stoves. Therefore, it is appropriate for the Application to be denied.

D. Emissions Associated with Combustion of Coke Oven Gas (COG) (Denial Point 19)

In the draft denial letter, Attachment 1, the Illinois EPA asserts that the Application is deficient because it "does not demonstrate that prior to February 2015, when the by-product recovery coke oven batteries at the Granite City Works were shut down and COG [coke oven

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controlling CO emissions from combustion sources." (National Steel, Original Application, Supplement October 30, 1995, p. 4-6, Section 4.3.3.1, "Blast Furnace Stoves," in Section 4.3.1, "Inherently Lower-Emitting Processes/Practices," in Section 4.0, "Best Available Control Technology Review.")

However, the use of such practices as BACT for the stoves for CO was not explicitly required by Permit 95010001 as issued. Condition 41(b) of Permit 95010001 acknowledged that PSD was applicable to the Project for SO_2 and CO. However, this condition simply concludes by stating that, "The Agency has determined that these additional requirements [including BACT for affected SO_2 and CO emissions units] have been met." The Illinois EPA's project summary for the public comment period that was held before the initial issuance of Permit 95010001 addressed the BACT requirement of the PSD rules in a single sentence, explaining, "GCD (Granite City Division of National Steel] has shown that the work practices used for SO_2 and CO constitute BACT as used by other steel mills for these pollutants. (Illinois EPA, November 1995, "Project Summary for Proposed Issuance of a Construction Permit for Granite City Division of National Steel Corporation," p. 6.)

[72] The Illinois EPA agrees that the Application is better than the application submitted by National Steel. The Application recognizes that if BACT for an emission unit is not to be set as a numerical emission standard, it must be determined that emissions testing is infeasible for that unit. However, the Application is identical to National Steel's application as it does not make this showing.

gas) ceased to be available, BACT was being utilized for the SO_2 and CO emissions from use of COG in the stoves." US Steel acknowledges that the BACT determination made by Illinois EPA in 1996, based on relying on the application submitted by National Steel, may have been deficient in this regard. Nonetheless, based on a pertinent court decision, Illinois EPA's assertion that any such historical deficiency is relevant to the Application is entirely without merit.[73]

This comment does not show that the Application should not be denied based on Denial Point 19. This comment does not respond to the issues that are raised by this denial point. The situation that was addressed by the court decision cited by this comment did not involve the situation presented by the Application. The cited court decision involved an after-the-fact enforcement action against a source for the failure to obtain a PSD permit. Accordingly, this comment does not show that the Application should not be denied based on Denial Point 19.

By way of further explanation, the Application must address BACT for the blast furnaces stoves for emissions of SO_2 and CO because of the Application, itself, and how it proposes to address emissions of the blast furnace stoves. The Application proposes revisions to the baseline emissions of the Project to reflect what US Steel now considers should have been the baseline emissions for the original permitting of the Project. In particular, updates to the emissions of the blast furnace stoves for particulate, NOx and VOM are proposed to address the emissions of the stoves during the baseline period from use of COG. However, emissions from use of COG were not considered during the original permitting of the Project. That the Application now proposes that emissions from use of COG be addressed for the requested revisions of Permit 95010001 is the reason why the Application must now also address BACT for the stoves for the SO_2 and CO emissions from use of COG, as well as BACT for the CO emissions from use of BFG and natural gas.[74] In this regard, Denial Point 19 in the Revised Draft Denial Letter explains as follows:[75]

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[73] See, e.g., U.S. v Midwest Generation LLC, 781 Fed. Supp. 2d 677 (N.D. Ill. 2011) (holding that a source owner' obligation with respect to BACT are limited to those imposed in a PSD permit.) (Footnote 13 of US Steel's Comments of January 2024.)

[74] As addressed in Denial Point 18, the BACT analysis in the Application for CO emissions from use of BFG and natural gas is also deficient.

[75] As specifically related to BACT for CO from use of COG in the Blast Furnace Stoves, Denial Point 19 in the Draft Revised Denial Letter also explains:

> **With respect to CO, it is relevant that the BACT demonstration in the 2022 application [Application] focuses on CO emissions from burning of fuels other than COG. For fuel burning units, the 2022 application states that "CO emissions of these units result primarily from incomplete combustion during the firing of BFG and natural gas." This ignores the historic**

> … unlike the initial permitting of the Project, the 2022 application [Application] now quantifies emissions of particulate, NOx and VOM from burning COG and these emissions are included in revised determinations of baseline emissions. (In 1996, the Project was permitted as a major modification for SO_2 and CO but did not quantitatively address emissions from burning COG.) If emissions from burning of COG are to be relied upon for the issuance of a revised permit, the 2022 application must also address the BACT requirements of PSD for the SO_2 and CO emissions from use of COG, as would have been applicable in 1996, when the Project commenced. The fact that the by-product recovery coke batteries at the Granite City Works were shutdown in 2015 and COG is no longer available at the facility, does not alter the applicable requirements under PSD that must be satisfied. PSD would be violated if a revised permit were issued for the Project based on revised NSR applicability analyses that considered use of COG, as contained in the 2022 application, absent demonstrations that the Project utilized BACT for emissions of SO_2 and CO from use of COG.
>
> Revised Draft Denial Letter, Attachment 1, p. 67.

The Application would not be denied based on Denial Point 19 to simply require US Steel to propose corrections to Permit 95010001 to address a potential error in the original permitting of the Project. That is, Permit 95010001 did not provide for BACT for SO_2 and CO emissions from use of COG even though the permit approved a PSD major modification for these pollutants. Instead, given that the usage of COG and associated emissions were not expected to increase with the Project, the emissions from use of COG in Project-affected fuel burning units were not quantitatively addressed by Permit 95010001.[76] However, the PSD rules

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> contribution of COG to the CO emissions of the stoves prior to February 2015. The 2022 application also does not state that, as of February 2015, it was no longer necessary to address CO emissions from use of COG because COG was no longer produced and available for use.
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> Revised Draft Denial Letter, Attachment 1, p. 68.

[76] That the original permitting of the Project did not quantitatively address emissions from use of COG is apparent from National Steel's application and Permit 95010001. For example, in National Steel's application, as the summaries of the netting analysis for different pollutant, Tables 3-1 through 3-6 of the January 1, 1996, supplement to the application,* address emissions of Project-affected fuel burning units, including the blast furnace stoves, only emissions from use of BFG, natural gas and fuel oil are addressed but not emissions from use of COG. Consistent with National Steel's application, Permit 95010001, Condition 22 and Table 4, only set limits for the usages of BFG, natural gas

indicate that determinations of BACT are to be made for all emissions of the relevant pollutant(s) from the subject emissions units, not simply for certain emissions of the relevant pollutant from such units.[77, 78]

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and fuel oil and associated emissions from use of these fuels, but not for the usage of COG and its associated emissions.

* Copies of these tables are included in the Application in Appendix B, "Emission Calculations."

[77] When addressing the applicability of BACT to a major modification for a pollutant, for the units for which BACT is required, the PSD rules require a determination of BACT for all emissions of the pollutant from such units, not just some of the emissions from such units, e.g., only the SO_2 emissions from burning BFG but not the SO_2 emissions from burning COG.

> A major modification shall apply best available control technology for each pollutant subject to regulation under the {Clean Air} Act for which it would result in a significant net emissions increase at the source. This requirement applies to each proposed emissions unit [emphasis added] at which a net emissions increase in the pollutant would occur as a result of a physical change or change in the method of operation of the unit [emphasis added].
>
> 40 CFR 52.21(j)(3) and 35 IAC 201.1100(c),

[78] It is interesting that in a later comment, US Steel Comment appears to take a position that is at odds with the position taken in these comments responding to Draft Denial Point 19. In the later comment, US Steel attempts to show that the revised NSR applicability analysis in the Application for the Project for NOx is appropriate and meets applicable requirements of the NSR rules. Among other things, this comment argues that it is appropriate to update the baseline emissions of Project-affected fuel burning units to now also account for emissions from use of COG in these units. (In this Responsiveness Summary, this particular comment is identified as Comment VIII.D(1).) This comment argues that it is appropriate for all NOx emissions of the subject units to be addressed, now including NOx emissions from use of COG. This is because applicable NSR rules require all emissions of the subject units of the pollutant for which the applicability of NSR is being considered to be addressed, as explained by the comment as follows.*

> … the major modification applicability test requires a comparison of the pre-project actual emissions of the emissions units or group of units; the post-project actual emissions (or potential to emit) of that emission unit or group of units; the applicable definition of actual emissions does not provide for a calculation that considers only some portions of the units' emissions.
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> US Steel, Comments of January 2024, Comment VIII.D, p. 13.

However, in response to Denial Point 19, this comment appears to argue that the PSD rules allow a BACT determination for a pollutant for a BACT-subject unit to be made for only some of the unit's emissions of that pollutant.

VIII. PSD AND NaNSR APPLICABILITY WITH RESPECT TO NOx EMISSIONS (DENIAL POINT 1)

A. The Denial of the Application Would Be Improper As the Denial Would Be Based on Previously Authorized Emissions and Emissions Increases

A1. The Illinois EPA Appears to Take into Account and Improperly Consider Emissions and Emissions Increases That Were Authorized by Illinois EPA at the Time Permit 95010001 Was Initially Issued to National Steel

The draft denial letter, Attachment 1, Paragraph 1, suggests that the Application is deficient because it does not include or otherwise address the substantive requirements of the PSD and NaNSR programs with respect to NOx emissions. However, in its evaluation of whether the Project is or would become a major modification, Illinois EPA appears to take into account and improperly consider emissions and emissions increases that were authorized by Illinois EPA at the time Permit 95010001 was issued to National Steel but will not occur in the future. In this regard, Permit 95010001, as issued to National Steel on January 25, 1996, provided for a net increase in annual NOx emissions from the Project of 38.3 tons per year. A revised version of Permit 95010001 issued to National Steel on January 25, 1999, which addressed

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*Incidentally, as explained in response to the later comment, the argument or claim that is made is not relevant to the reasons that the revised NSR applicability analysis in the Application has been determined to be deficient, such that the Application must be denied. As related to applicability of NSR, one reason that the revised NSR applicability is deficient is that the baseline emissions of NOx have been updated to include NOx emissions of Project-affected fuel burning units from use of COG. However, a similar update was not made for the NOx emissions of these units with greater production of iron and steel as provided for by Permit 95010001 following the Project. If revised NSR applicability analysis for NOx emissions is to be updated in the Application so that it addressed emissions of the Project-affected fuel burning units from use of COG, both the original, "pre-project," baseline NOx emissions and the original NOx emissions of these units with the Project must be updated.

an increase in permitted usage of natural gas in certain Project-affected fuel burning units, provided for an additional net NOx emissions increase of 31.8 tons/year (31.8 tons/year and 38.3 tons/year yields a combined increase of 70.1 tons/year). As such, the net NOx emissions increase from the Project authorized by the Illinois EPA prior to US Steel's ownership of the Granite City Works in 2003, when National Steel owned and operated the Granite City Works, is greater than the net change in NOz emissions shown in the Application with the revisions to Permit 95010001 that are now requested by US Steel, i.e., a net decrease of 237.3 tons/year.[79]

This comment does not identify a flaw in the Illinois EPA's review of the revised NSR applicability analysis for NOx in the Application, which addresses the increases requested by the Application in the permitted NOx emissions of certain units that are part of the Project.[80] As such, this comment does not show that increases in NOx emissions that are requested would not result in the Project becoming a major NSR modification for NOx. First, the comment does not even explain how the Illinois EPA has improperly considered emissions and increases in NOx emissions that had previously been permitted, as is claimed in this comment, when finding that the Application was deficient because it did not address the substantive requirements of NSR for the Project, as stated in the denial letters. The comment also does not explain why and

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[79] In this comment, information about the two versions of Permit 95010001 and the Application was presented in a table. In this Responsiveness Summary, relevant information is presented in a narrative. This is because the presentation of information in the table was misleading. For example, the table did not explain that Permit 95010001 was revised in 1999 to address a further change at the Granite City Works. The table also provided a value for the net increase in NOx emissions for this second permit that was the sum of the net increase indicated in Permit 95010001, as original issued for the Project, and the additional net increase in emissions with the further change to the facility. In the table, the Application, is identified as a "permit" that is "pending," rather than the Application, as submitted by US Steel for further revisions to Permit 95010001.The value that is provided for the net increase in NOx emissions for the Application is not clearly identified as the value proposed in the Application, which is based on the revised PSD applicability analysis for the Project in the Application, For the two permits that are addressed, the values for the net increase in NOx emissions either came from or were derived from information in the permits issued by the Illinois EPA.

[80] In the Application, Appendix B, Emission Calculations, this revised applicability analysis is entitled "USS Granite City - 1996 Production Increase Project: Revised NOx PSD {emphasis added} Net Emissions Increase Analysis." In this Responsiveness Summary, this revised analysis is referred to as an NSR applicability analysis, This is because US Steel must address the implications of the increases in emissions of NOx requested by the Application for both PSD and NaNSR.

how such emissions and emission increases should have been handled.

Second, as the Application requests increases in the permitted annual NOx emissions of certain units affected by the Project, i.e., the blast furnace casthouse (casthouse) and the BOFs,[81] it is appropriate for the updated NSR applicability analysis for the Project for NOx to reevaluate applicability of NSR to the Project for NOx. The fact that the Project was previously permitted for net increases in NOx emissions that did not trigger NSR is immaterial since the Application requests corrections to the prior permitting of the Project. In other words, the fact that the original NSR applicability analysis for the Project for NOx was flawed, is indicated by the request in the Application for increases in permitted NOX emissions of certain units affected by the Project. Accordingly, the net increases in NOx emissions of the Project indicated in the Permit 95010001, as originally issued, and in the subsequent revisions to Permit 95010001 should no longer be considered reliable as the NSR applicability analysis that they relied upon is flawed. This is directly contrary to what is suggested by this comment. In addition, as the Application involves changes to the NSR applicability analysis for the Project for NOx, it is appropriate for the Illinois EPA to review this analysis in its entirety and not simply with regard to the NOx emissions of the casthouse and the BOFs.[82]

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[81] The bulk of the requested increase in NOx emissions involves the BOFs. Permit 95010001 currently limits the annual NOx emissions of these units to 69.63 tons/year. The Application, Table 6-7, "NOx emission Caps," and Appendix B, Emissions Calculations, "USS Granite City - 1996 Production Increase Project: Revised NOx PSD Net Emissions Increase Analysis," requests that Permit 95010001 be revised to increase the permitted NOx emissions of the BOFs to 400.0 tons/year. The Application also proposes corrections to the baseline, "pre-project" NOx emissions of the BOFs with use of an emission factor of 0.1475 pounds/ton of steel, rather than 0.0389 pounds/ton of steel (Application, Table 6-5, "Pre-Project Actual NOx Emissions and Proposed Changes to Pre-Project NOx Emission Factors for Affected Emissions Units"). The resulting corrected NOx baseline for the BOFs is 179.8 tons/year. The difference between this revised baseline emissions and the revised permitted NOx emissions requested for the BOFs is a net increase of 220.2 tons/year (400 - 179.8 = 220.2).

The NOx emissions of the blast furnaces are much less than those of the BOFs. The proposed correction for the baseline emissions of the blast furnaces would lower their baseline from 15.6 to 4.6 tons/year. The Application requests that the revised permit provide for future NOx emissions of 24.0 tons/year from the blast furnaces, for a net increase of 19.4 tons/year (24.0 - 4.6 = 19.4). (As Permit 95010001 currently limits NOx emissions of the blast furnaces to 22.79 tons/year, the emissions limitation in the permit would actually only change by 1.21 tons/year.)

[82] Separate from the approach to NSR applicability taken by US Steel in this revised analysis for NOx, as is addressed in this series of responses, the Illinois EPA's review of the revised analysis has also identified various

Third, this comment does not clearly explain how the net change in NOx emissions of the Project for purposes of NSR would now be lower than originally permitted. In other words, even though the Application requests that Permit 95010001 be revised to increase the permitted NOx emissions of the casthouse and the BOFs by more than 200 tons, how could that revised permit for the Project be based upon a net decrease in NOx emissions of 237.3 tons/year instead of a net increase in emissions that is substantially greater than 38.1 tons/year. In fact, this comment hints at the answer to this question as it claims that the "Illinois EPA appears to take into account and improperly consider emissions and emissions increases that were authorized by Illinois EPA at the time Permit 95010001 was issued to National Steel but will not occur in the future [emphasis added]." As such, this comment acknowledges that the revised NSR applicability analysis for NOx in the Application addresses current circumstances, nominally starting in 2022 when the Application was submitted, and not circumstances as should have been addressed when Permit 95010001 was originally issued.[83]

This approach to the correction of construction permits for projects that were originally considered non-major projects and not subjected to substantive requirements of NSR is contrary to the NSR rules and long-standing practice. As such, in the revised NSR applicability analysis in the Application, US Steel appears to improperly take into account and consider decreases in NOx emissions that were not made enforceable by Permit 95010001 and, and in fact, did not occur until long after the Project was completed. In other words, the revised NSR applicability analysis for NOx in the Application would rely on "post-project" decreases in NOx emissions that were not part of the original Project.

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issues with the quantification of NOx emissions for these analyses, as were addressed in the draft denial letters. (For example, see Denial Points 2 and 3A.) As such, in these responses related to the general approach taken in the revised NSR applicability analysis, the value for the net change in NOx emissions from the Application is used for ease of explanation. It does not indicate acceptance of this value by the Illinois EPA given the separate issues with regard to accuracy and appropriateness of the quantification of the Project's NOx emissions in the Application, as were also addressed by the draft denial letters.

[83] The claim that the NOx emissions that are of concern for applicability of NSR "have been authorized" is also problematic as the revised NSR applicability analysis for NOx in the Application addresses emissions from use of coke oven gas (COG) in Project-affected fuel burning units. However, neither National Steel in the original application for the Project nor the Illinois EPA when it originally issued Permit 95010001 for the Project quantitatively addressed emissions from burning COG. As such, it is not clear that the Illinois EPA authorized such NOx emissions in the manner now claimed by this comment.

As such, the revised NSR applicability analysis for NOx in the Application does not address whether NSR should have been applicable for NOx in 1996 if the original permit application had correctly quantified the NOx emissions of the casthouse and the BOFs with the Project. The fact that with certain post-project emission decreases in NOx emissions that have occurred at the Granite City Works, the overall NOx emissions of the Project-affected units may currently be and in the future will continue to be less than the overall NOx emissions that could have originally been allowed by Permit 95010001 is not material to determining whether the requested increases in the NOx emissions of certain units, as requested by the Application, would result in applicability of NSR to the Project for NOx.

In this regard, US Steel's Comments of January 2024 do not include Footnote 13 of its Comments of September 2023. This footnote discussed the "post-project" decreases in NOx emissions that the Illinois EPA found the Application would improperly rely upon for purposes of revised NSR applicability analysis for NOx. This footnote refers to various statements in the Initial Draft Denial Letter describing the developments at the Granite City Works that led to these emission decreases, i.e., the shutdown of ten older boilers and the shutdown of the byproduct recovery coke batteries, which eliminated use of coke oven gas (COG) as a fuel.[84]

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[84] In US Steel's Comments of September 2023, the reference to Footnote 13 is located after the following sentence, "However, in its evaluation of whether the Production Increase Project is or would become a major modification, Illinois EPA appears to take into account emissions and emissions increases that were authorized by Illinois EPA at the time Permit No. 95010001 was issued to National Steel.[Footnote] 13[]" This sentence was clearly erroneous as it stated that the Illinois EPA was taking into account certain emission increases whereas in this denial point the Illinois EPA disputes US Steel's proposed reliance on certain, post-project emission decreases. The entirety of this footnote is provided below.

> [Footnote] 13 See, e.g., [Draft Denial Letter,] Attachment 1 at p. 4, suggesting that the updated applicability analysis should include "'future' NOx emissions" from Boilers 1 through 10 based on the configuration of those boilers as they existed at the time the Production Increase Project was implemented by National Steel and at the time US Steel purchased the assets in 2003, notwithstanding the fact that those boilers are prohibited from operating currently and in the future; Attachment 1 at p. 4, suggesting that the updated applicability analysis should include greater NOx emission rates from Boilers 11 and 12 based on the configuration of those boilers as they existed at the time the Production Increase Project was implemented by National Steel and at the time US Steel

It is also noted that separate from Denial Point 1, in Denial Point 3, the Illinois EPA also determined that the requested revised permit should be denied for reasons associated with the new value for the NOx emissions of Project-affected fuel burning units used in this analysis. In Denial Point 3, the Illinois EPA explains that the requested revised permit must be denied because the Application does not show that this new value for the NOx emissions of these units fully accounts for the emissions of these units with the Project. For example, it is observed that the "…the 2022 application does not show that 706 tons/year represents the post-project NOx emissions as could have been addressed when Permit 95010001 was originally issued if emissions from burning of COG [coke oven gas] in these units when operating at levels of iron and steel production that were permitted had been considered," (Revised Draft Denial Letter, Attachment 1, p. 11).[85] Failure to show compliance with the substantive requirements of NSR was not identified as a reason for denial in Denial Point 3. This is different from Denial Point 1 where the issuance of the requested revised permit was denied because the Application did not show compliance with the substantive requirements of NSR for a major project for NOx because the revised NSR applicability analysis for NOx inappropriately relies on certain decreases in emissions.

One final observation, the second version of Permit 95010001 cited in this comment, which is not actually addressed in the Application, was

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purchased the assets in 2003, notwithstanding the fact that the Boilers are prohibited from operating at those emission rates currently and in the future; Attachment 1 at p. 4, suggesting that the updated applicability analysis should include greater NOx emission rates from Boilers 11 and 12 and from the blast furnace stoves based on the use of coke oven gas as fuel in those units at the time the Production Increase Project was implemented by National Steel and at the time US Steel purchased the assets in 2003, notwithstanding the fact that coke oven gas is not an available fuel at the facility currently or in the future.

[85] Denial Point 3 has similarities to Denial Point 1 from a mathematical perspective, as should be expected. If a value for a parameter is too small because it reflects certain downward adjustments, the value of the parameter also can be described as not being large enough because it does not reflect certain upward adjustments.

an operating permit, not a construction permit.[86, 87] Moreover, as stated in this Operating Permit 95010001, dated January 5, 1999, this permit was revised to "incorporate" or address increases in emissions of NOx and other pollutants authorized by Construction Permit 98110039, date issued December 9, 1998. The subject of that permit was a "Natural Gas Usage Increase," not a "Production Increase," i.e., not the Production Increases Project. Consistent with the application for that permit, Permit 98110039 only provides for increases in permitted emissions of Boilers 1 through 12 and of ladle dryer preheaters with the increase in the permitted usage of natural gas by these units. The natural gas usage of the blast furnace stoves was not addressed.[88]

A2. In the Draft Denial Letter, the Illinois EPA's Avoids the Language of the "Source Obligation Provisions" of the NSR Rules

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[86] In Appendix D, "Copies of Construction Permits," the Application includes copies of two versions of Permit 95010001. The first is the current version of this permit, dated May 30, 2012, which was revised pursuant to an application from US Steel and issued to U.S. Steel, Granite City. The second version of Permit 95010001 is the original permit for the Project issued to National Steel, dated January 25, 1996.

[87] Prior to the establishment of the Clean Air Act Permit Program (CAAPP), i.e., Illinois' program for operating permits for sources of emissions under Title V of the federal Clean Air Act, sources could obtain separate operating operations for the various emission units at a facility. Construction permits, which were issued for the construction or modification of emission units, were then routinely converted into operating permits that provided for the ongoing operation of the subject new or modified units. This was done using the identical permit number, with the operating permit being titled as such rather than as a construction permit and the introductory language in the permit authorizing the operation of the subject units rather than their construction or modification. This practice was discontinued with the adoption of the CAAPP, since Title V of the Clean Air Act provides that the emissions units at a facility that are owned or operated by a single entity must be addressed by a single facility-wide operating permit issued to that entity.

[88] As indicated in Table I of Permit 98110038, the increase in NOx emissions of the units addressed by this permit (31.83 tons/year), which would accompany the increase in permitted usage of natural gas by these units was determined as the difference between the calculated baseline emissions of these units of 174.11 tons/year (average of annual NOx emissions of 1996 and 1997, reflecting annual average natural gas usage of 1,131 million cubic feet/year) and the new permitted NOx emissions for these units of 205.94 tons/year (NOx emissions calculated based on the new permitted usage of up to 1,347 million cubic feet/year of natural gas).

When summarizing its review of the revised NOx net emissions increase ("netting") analyses in the Application, the Illinois EPA conspicuously avoids using the language of the "source obligation provisions," which are controlling, as specifically discussed in later comments.

The Illinois EPA's responses to US Steel's comments concerning the "so-called" source obligation provisions of the NSR rules[89] will follow those comments by US Steel, also being later in this Responsiveness Summary. By way of a brief preview in response to this specific comment, the subject provisions do not directly address or govern the applicability provisions of the NSR rules, which set out how one determines whether projects are or are not major projects for purposes of NSR. As such, the Illinois EPA did not refer to the so-called source obligation provisions in the Draft Denial Letters since the issue for the increases in NOx emissions requested by the Application is whether they result in the applicability of NSR for NOx as the Project would now become a major modification for purposes of NSR. The so-called source obligation provisions prescribe how the substantive requirements of NSR, e.g., Best Available Control Technology (BACT) under PSD or Lowest Achievable Emission Rate (LAER) under NaNSR, are to be determined for the relevant units affected by certain projects, i.e., projects which become a major new source or a major modification as a consequence of the relaxation of enforceable limitations, once it has been determined that such projects would become major projects for purposes of NSR.

A3. The Draft Denial Letter Appears to Improperly Suggest That a Final Adjudication Has Been Made That the Project Was Originally a Major NSR Modification for NOx

In the Draft Denial Letters, Attachment 1, Footnote 3, the Illinois EPA appears to suggest it has already been determined the Project as authorized prior to US

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[89] The provisions of the NSR rules that these comments refer to as the "source obligations provisions" are characterized by the Illinois EPA as being "so-called" provisions. In this regard, US Steel uses the term "source obligation provisions" to refer to certain provisions of the NSR rules that refer to or address relaxations of source-specific limitations, i.e., 40 CFR 52.21(r)(4), 35 IAC 203.201 and 35 IAC 204.850. However, these provisions are not actually entitled "source obligation." In Illinois' NSR rules, the relevant provisions, 35 IAC 203.201 and 35 IAC 204.850, are actually entitled "Relaxation of a Source-Specific Limitation." In the federal PSD rules, 40 CFR 52.21(r)(4) is one of several provisions under the general heading of "Source obligation." Moreover, in Illinois' PSD rules, 35 IAC 204.820, the provision that is actually entitled "Source Obligation" does not address the relaxation of limitations. Rather, it deals with the obligation of sources to construct and

Steel's ownership of the Granite City Works was a major modification. In this footnote the Illinois EPA asserts that an analysis of alternatives would have been required as part of National Steel's original application for the Project "… if it had been recognized in 1996 that the Project was a major modification for NOx"). US Steel is unaware of any such final determination or adjudication.[90]

operate in compliance with the terms of their PSD permits. (The federal PSD rules include a similar requirement at 40 CFR 52.21(r)(1).)

In Section 2.2.4 of the Application (Application p. 2-4) , the introductory discussion of the provisions of the NSR rules addressing relaxation of established permit limitations, the relevant rules are specifically cited. The discussion also explains that updated net increases calculations are included in the Application, including calculations for baseline emissions now address emissions from burning coke oven gas (COG) in Project-affected fuel burning units. However, the discussion does not describe approach that is taken to updating the emissions with the Project.

[90] This comment is Footnote 14 of US Steel's Comments of January 2024.

In this footnote, the Illinois EPA was not suggesting that a final determination or adjudication has been made that the Project was or is major for NOx. As is apparent from the Draft Denial Letters, the Illinois EPA has determined that the revised permit requested by the Application should be denied because, among other things, the Application does not provide proof that the Project would not be a major modification for NOx with the requested increases in NOx emissions and does not provide proof of compliance with the substantive requirements of NSR for NOx. In this regard, it is possible that in a new application, US Steel could show that the Project would not become a major modification for NOx, show that the substantive requirements of NSR for a major modification for NOx have been met, or otherwise show that the requirements for issuance of a revision to Permit 95010001 have been met.

In addition, as related to the substantive requirements of NSR for a major new source or major modification, this footnote called attention to the fact that in the recitation of the substantive requirements of NSR in the body of the Draft Denial Letter, the Illinois EPA omitted one such requirement, i.e., the requirement of NaNSR for an Analysis of Alternatives. As explained by the Illinois EPA in the final sentence of the cited footnote, which was not included in the comment, "It is beyond the scope of the revisions of Permit 95010001 that are now requested to address the fact that such an analysis was not originally part of the construction permit application for the Project." This acknowledges the difference in this substantive requirement of NaNSR from other substantive requirements of NSR that can potentially be addressed retroactively with permitting. For example, for BACT or LAER, the Illinois EPA can conceivably issue a permit that simply codifies these requirements for control of emissions so that they are enforceable on an ongoing basis if it is also found that emissions of a project were actually controlled as required by NSR.

A4. The Denial of the Application Would Appear to Be Improper As It Would Shift a burden that is not US Steel's to US Steel

The Draft Denial Letter states that, "The 2022 Application requests that the Permit be permitted for additional NOx emissions but does not show that the Project would still not be a major modification for NOx if the permit were revised as requested." (Denial Letter, Attachment 1, p.3.)[91] With this statement, the Illinois EPA would appear to be

[91] In US Steel's Comments of January 2024, this statement is characterized without explanation as being ambiguous. The Illinois EPA disagrees with this

characterization as the cited statement is factual in nature. It explains that while the Application requests Permit 95010001 be revised to increase the permitted NOx emissions of certain units, the Application does not show that the Project would still be non-a major modification for NOx if the Project were permitted with increased emissions as requested. Moreover, this comment does not actually dispute this statement. Instead, the comment appears to argue that US Steel should not be considered responsible for the Project being a major modification for NOx because applicability of NSR for the Project for NOx should now be determined considering post-project decreases in emissions, as was done in the Application. In addition, the comment likely argues that US Steel should not be subject to the substantive requirements of NSR for NOx even if the Project would become major for NOx because Permit 95010001 was originally issued to National Steel based on an application that it submitted.

In its Comments of September 2023, US Steel did discuss why it considered this statement to be ambiguous, as provided below.

> Illinois EPA's assertions regarding applicability of the substantive requirements of the PSD and NNSR [NaNSR] programs with respect to NOx emissions are ambiguous: US Steel cannot determine from the draft denial letter and associated documents whether Illinois EPA is claiming that the Production Increase Project as authorized by Illinois EPA and as implemented by National Steel prior to US Steel's ownership was a major modification subject to the substantive requirements of the PSD and NNSR programs or, instead, if Illinois EPA is claiming that the measures required by Permit 95010001 as issued to National Steel were sufficient to ensure the Production Increase Project would not be a major modification and that the Project would become a major modification solely by virtue of the relaxations requested by US Steel. For purposes of these comments, US Steel has assumed Illinois EPA's claims fall into the latter category, *i.e.*, that the Production Increase Project would become a major modification for NOx solely by virtue of the requested relaxations.
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> US Steel's Comments of September 2023, p. 11.

In response to that comment, the statement in the Initial Draft Denial Letter of concern to US Steel addresses the Application submitted by US Steel. The Illinois EPA is not editorializing on the circumstances of National Steel relative to the Project. The Illinois EPA also did not claim, as is suggested by US Steel, that the Project would become a major modification for NOx simply because US Steel has requested relaxations of certain limitations for NOx emissions in Permit 95010001. Rather, the Project would become a major modification because NOx emissions of certain units are more than the emissions that are currently allowed under Permit 95010001 and US Steel has not shown that the Project would not become a major modification for NOx with the increases in emissions that are requested by the Application. In other words, major NSR is threatened or triggered for NOx because it has been found that the rates of actual NOx emissions of certain Project-affected emission units are greater than the permitted rates in Permit 95010001. To address this, US Steel has submitted an Application that, among other things, requests

improperly shifting a burden that is not US Steel's to US Steel. US Steel has demonstrated in the Application that the Project would not become a major modification solely by virtue of the relaxations and other revisions requested by US Steel. This is the only demonstration required of US Steel as it relates to applicability of the PSD and NaNSR programs with respect to NOX emissions. In the Denial Letter, Attachment 1. p.11, the Illinois EPA complains that the Application "does not show that the actual NOX emissions of the subject units [Project-affected fuel burning units] in the period from 1996 to the present have not exceeded 706 tons/year," which is the emission limit now proposed for these units by US Steel. However, US Steel has no obligation under the rules to make such a showing.

This comment does not show that the Application should not be denied based on Denial Point 1. In this regard, this comment does not show how, in this denial point, the Illinois EPA would be "…improperly shifting a burden that is not US Steel's to US Steel." US Steel is now the owner and operator of the Granite City Works.[92] US Steel has submitted the Application that requests increases in the permitted NOx emissions of the casthouse and the BOFs. It is these increases in emissions, particularly the requested increase in the permitted NOx emissions of the BOF of more than 200 ton/year that would result in the Project becoming a major modification for NOx for purposes of PSD and NaNSR. In the Application, US Steel provides a revised NSR Applicability Analysis for NOx (Application, Appendix B - Emission Calculations, "Revised NOx PSD Net Emissions Increase Analysis"). This analysis was presumably submitted in an attempt to show that the Project would not become an NSR major modification with the requested increases in NO_x emissions of these units.[93] This applicability analysis must be consistent with the provisions of the NSR rules governing such analyses, e.g., Section 203.208, "Net Emission Determination" in 35 IAC Part 204, Illinois's rules for NaNSR. This would not be the case if the revised analysis for the Project does not address the NOx emissions of

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revisions to Permit 95010001 to increase the amounts of NOx certain units are permitted to emit.

[92] Even if, for purposes of discussion, one posits that US Steel was not responsible for the operation and emissions of the Project during the period before it took over the operation of the Granite City Works from National Steel, US Steel became responsible for this facility beginning in 2003 when it acquired this facility.

[93] The are number of deficiencies in this analysis, as addressed in the denial letter and in this Responsiveness Summary as it is responds to US Steel's other comments. As such, this analysis cannot be relied upon to show the Project would not become a major modification for NOx with the requested increases in NOx emissions of the casthouse and the BOFs.

the Project in the period following the initial issuance of Permit 95010001.[94]

As to the claim in this comment that the Project would not become a major modification solely by virtue of the relaxations of current limitations, i.e., increases in the permitted NOx emissions of the casthouse and the BOFs as are being requested, neither this comment nor the Application show how that these increases in the permitted emissions of these units should be considered anything other than correction of the original limitations that were set for these units in Permit 96010001 in 1996. In particular, neither this comment nor the Application suggest that the increases in the NOx emissions of these units are the result of physical changes or changes in the method of operation of these units that are unrelated to and occurred subsequent to the Project.[95]

A5. The Illinois EPA's Claims Regarding Us Steel's Obligations with Respect to NSR for NOx Are Improper As They Are Contrary to Law

Illinois EPA's claims regarding US Steel's obligations with respect to PSD and NaNSR with respect to NOx emissions are improper as they are contrary to applicable law. The claim that Illinois EPA makes here, that the permit for the Project must obligate US Steel to comply with the substantive requirements of these major NSR programs because of emissions increases that may have occurred many years ago, prior to US Steel's ownership, is the same as certain claims previously made by the State of Illinois, the United States of America (the U.S. Attorney General on behalf of the Illinois EPA), and various plaintiff intervenors against Midwest Generation and others. These claims were rejected by both the U.S. District Court for the Northern District of Illinois and the U.S. Court of Appeals for the 7th Circuit. For example, refer to this U.S. District Court's 2011 decision (*U.S. v. Midwest Generation, LLC*, 781 Fed. Supp. 2d 677 (N.D. Ill. 2011) that

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[94] It is noteworthy that the revised NSR applicability analysis in the Application reflects proposed updates or corrections to the "pre-1996," baseline NOx emissions that were relied upon for the initial permitting of the Project for the casthouse, the BOFs and other Project-affected fuel burning units. However, this revised analysis does not propose comparable corrections to address the NOx emissions with the Project, which would address emissions in the period between 1996 and 2015, when the by-product recover coke oven batteries at the facility were shut down.

[95] The Application does not include an analysis showing that the increase or net increases in NOx emissions from any such subsequent project would not itself be a major modification for NOx purposes of PSD or NaNSR.

held that, where a facility should have been subjected to Best Available Control Technology (BACT) and other substantive requirements of the major NSR permitting programs due to modifications implemented by a prior owner, Section 9.1(d) of the Act does not obligate a subsequent owner to come into compliance with those requirements. (Footnote 15 of US Steel's Comments of January 2024.) In recent years, the Illinois EPA has repeatedly issued construction permits involving the units at the power stations that were the subject of these decisions. For example, refer to Construction Permit 15030051, initially issued October 16, 2015, and subsequently revised on July 15, 2016, May 9, 2017, and July 9, 2020. This permit addresses the construction of a natural gas conversion project for the three coal-fired generating units at Midwest Generation' Joliet Generating Station. This permit did not impose BACT or other major NSR obligations on the generating units. (This permit also provided for operation of the converted generating units until their operation was addressed by a CAAPP permit.) (Footnote 16 of US Steel's Comments of January 2024.)

This comment does not explain why the decisions of the federal courts in the cited cases that dismissed certain claims are relevant to the denial of the Application. It also does not explain why Construction Permit 15030051, which was issued to Midwest Generation, is relevant to the review of the Application. With respect to the subject court decisions, which were not addressed in the Application, the comment does not explain the significance of these decisions for the Illinois EPA's review of the Application. In particular, since US Steel provided a revised NSR applicability analysis for NOx in the Application trying to show the Project would not become a major modification for NOx with the requested increases in the permitted emissions of certain units, it is not clear why the cited decisions are even relevant to the denial of the requested revised permit. Moreover, the circumstances that are being addressed by the Application are clearly not the same as those addressed by the subject decisions. The cited decisions involve a lawsuit in which the plaintiffs sought to apply and address the substantive requirements of the PSD program for major modifications for which a source had not obtained PSD permits.[96] As related to emissions

[96] The lawsuit initially involved six coal-fired generating stations at which the former owner and operator, Com Ed, undertook modifications to the generating units but did not obtain construction permits prior to those modifications, as should have happened under the PSD program. (One of these stations was shut down while the lawsuit was pending and three more are now shutdown.)

of NOx and NSR, the Application entails a request by US Steel to revise a construction permit, Permit 95010001, to increase the permitted NOx emissions of certain units. As such, the relevant issue before the Illinois EPA for the review of the Application was whether the increased NOx emissions, as would be addressed by the requested revisions to Permit 95010001, would, for NOx, result in a major NSR modification.[97]

After the modifications to the six generating stations were completed, the stations were then sold to Edison Mission Energy (EME). EME is the parent company of Midwest Generation, which is the entity that operated these stations at the time of the lawsuit. Neither EME nor Midwest Generation applied for revisions to construction permits for Com Ed's past modifications to the generating units nor were there any such PSD permits for which revisions could have been requested. With regard to PSD, the plaintiffs claimed that Midwest Generation violated relevant provisions of the Clean Air Act and that the continued operation of subject generating units constituted continuing violations of the Clean Air Act. To address these violations, the plaintiffs sought equitable civil penalties and equitable relief (i.e., the use of BACT on the generating units). The claims related to PSD for the past modifications were dismissed under the federal statute of limitations because the various modifications occurred more than five years before the initial lawsuit was filed. (It does not appear that applicability of NaNSR was raised in these cases.) In these cases, it was found that, at the time the lawsuit began, there were not violations because the Clean Air Act only explicitly requires that a source obtain a PSD permit for the construction of a major new source or a major modification, not for the subsequent operation of the source or modification. The Clean Air Act does not provide for subsequent enforcement for the absence of a PSD permit if the statute of limitations has run.

[97] The nature of the cited decisions is also different from the nature of this Application. With respect to NSR, this lawsuit primarily involved compliance under the Clean Air Act and other federal laws. Compliance with Illinois law, i.e., Section 9.1(d) of the Act, was a secondary matter. This was explained by the U.S. District Court for the Northern District, which stated as follows:

> By specifically quoting a portion of section 9.1(d) in their Amended Complaint, Plaintiffs do not present any cause of action that was not presented in their original compliant; nor do they allege any new facts to support a violation of Illinois law. Plaintiffs simply raise a new question for statutory interpretation. The opportunity for such arguments has lapsed.
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> ...
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> Plaintiff's new interpretation is inconsistent with, and contrary to, the Court's prior ruling that Midwest Generation does not commit a PSD violation by operating a source that previously constructed without a construction permit. Thus, even if their argument had not been waived, Plaintiffs have failed to state a claim for any direct violation of Section 9.1(d) that is sufficient to survive Midwest and EME's motion to dismiss under this theory. United States v. Midwest Generation LLC, 781 F. Supp. 2nd 677, p. 683-684.

This comment also does not explain why the issuance of Construction Permit 15030051 by the Illinois EPA supports issuance of the revision to Permit 95010001 as requested by the Application. Again, the circumstances of this permit are not the same as those addressed by the cited lawsuits or Permit 95010001. For the natural gas conversion project addressed by Permit 15030051, Midwest Generation submitted an application and obtained a construction permit before undertaking this project. For various pollutants,[98] the application included NSR applicability analyses comparing the baseline actual emissions of the generating units at the Joliet Station and the total future permitted emissions of the station, i.e., the emissions of the existing generating units after conversion to natural gas and the emissions of certain new, auxiliary units that would be installed to facilitate operation on natural gas. These analyses conformed with the applicable requirements of the NSR rules. The analysis for NOx showed that this project would not result in a significant increase in emissions and, indeed, would result in a net emission decrease of over 2000 tons/year (Permit 1503031, date issued July 9, 2020, Attachment 1.) The subsequent revisions of this permit did not provide for increases in permitted emissions of the subject units. They involved other aspects of the permit, i.e., exceedances of the applicable NOx emission standard during startup and malfunction/breakdown and the timing of the testing for CO and VOM emissions required by the permit for Unit 6 (Boiler 5).[99]

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[98] For volatile organic material (VOM), the application showed that, with the conversion project, the station would continue to be a non-major source under NaNSR.

[99] The July 2016 revision of Permit 15030051 responds to Midwest Generation's request that the permit provide for the possibility that the NOx emissions of the units might violate 0.30 pounds/million Btu, the limit in 35 IAC 217.141(a), during startup and malfunction/breakdown (SMB). Relevant terms of 35 IAC Part 201 Subpart I, Malfunctions, Breakdowns or Startups, were added to the permit, along with related operational requirements and recordkeeping and reporting requirements. (Note that 35 IAC Part 201 Subpart I was repealed effective July 25, 2023.)

The May 2017 version of Permit 15030051 responds to a request that an additional year be provided for testing of Unit 6 for CO and VOM. The additional time was sought because of the low capacity factor at which this unit was being operated, In addition, this emissions testing was required during maximum operation and other representative operating conditions of Unit 6. This necessitated coordinating this testing with the conditions in the Des Plaines River so that the warm cooling water discharged from the station would not result in a violation of the limits for the temperature of river water set by the applicable National Pollutant Discharge Elimination System (NPDES) permits, Permits IL0064254 and IL000002216.

The July 2020 revision of Permit 15030051 responds to a request that testing of Unit 6 for CO and VOM not be required every three years due to the very low

B. Source Obligation

B1. The NSR Rules Provide for After-The-Fact Permitting As Proposed by the Application

As explained in Section 2.2.4 of the Application, the PSD and NaNSR rules provide that after-the-fact PSD and/or NaNSR permitting is required when a project becomes a major modification "solely by virtue of a relaxation in" a synthetic minor limitation. (For PSD, see 40 CFR 52.21(r)(4) and, now, 35 IAC 204.850.[100]) These "source obligation" provisions effectively require updated PSD and NaNSR applicability analyses in situations where the source or applicant proposes to relax a synthetic minor limitation in a permit.

Applicability analyses performed in order to determine whether the source obligation provisions apply in conjunction with a requested relaxation are prospective, not retrospective. All of the facts as they will exist at the time of the requested relaxation are considered in the updated emissions increase calculations; there is

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capacity factor at which it was now operating. The revised permit only requires such testing for Unit 6 upon specific request of the Illinois EPA.

[100] Under the PSD and NaNSR programs as in effect in 1996, at the time of the Project, where a project involved changes to existing emissions units that are so significant that the emissions unit was deemed not to have begun normal operation, the post-change actual emissions of that unit are assumed equal to its potential to emit. 40 CFR 52.21(b)(21).* The major modification applicability test was therefore based on a comparison of the pre-project actual emissions and the post-project potential to emit of the emissions unit or group of units. 40 CFR 52.21(b)(2)-(3). An emissions unit's potential to emit is its maximum capacity to emit a pollutant under its physical and operational design. 40 CFR 52.21(b)(4). Limitations on the capacity to emit a pollutant are treated as part of the design of an emissions unit or group of units if the limitation or the effect it would have on emissions is legally enforceable and enforceable as a practical matter. Where the potential to emit of a unit or group of units is governed by enforceable limitations rather than by the unrestricted physical capacity of that unit or those units, and where those limitations were necessary to a determination that a project was not a major modification, the term "synthetic minor" is commonly used to describe the project and the associated limitations.

* Except as noted, all citations to the applicable PSD rules in US Steel's comments are to the federal PSD rule as codified and in effect at the time of issuance of Permit 95010001 in 1996; where the corresponding provision of the then-effective NaNSR rule is equivalent, separate citations are not provided. (This explanation for the approach to regulatory citations taken in US Steel's comments is footnote 17 in US Steel's comments of January 2024.)

no consideration of facts as they may have existed at some prior point in time and no "mixing" of facts from different points in time. This approach is demonstrated by USEPA's finding with regard to a project by Pfizer Pharmaceuticals Incorporated, LLC (the "Pfizer determination"). In the relevant letter, USEPA expressed acceptance of the proposed relaxation in 2015 of synthetic minor limitations that had been imposed in 1995 in order to establish synthetic minor status for NOx emissions.[9]

This comment does not show that the position taken in this comment, i.e., that revised NSR applicability analyses that are conducted in conjunction with requested increases in permitted NOx emissions of the casthouse and the BOFs, should be prospective rather than retrospective, is appropriate or correct. The comment reflects a faulty understanding of the "so-called" source obligation provisions of the NSR rules, likely based upon a superficial review of these provisions. This comment only provides a single concrete piece of support for the position that it takes, the Pfizer Determination. As will be discussed further below, a review of the Pfizer determination shows that it does not actually support the position taken in this comment. In addition, the fallacious nature of the position taken by this comment is evident when one considers other matters that are instructive for how NSR applicability analyses that are prepared to accompany proposed relaxations of permit limitations should be conducted, as will also be discussed below.

<u>The Approach Put Forth in this Comment for NSR Applicability for Relaxation of Limitations Is Contrary to Established Practice</u>

It is well-established that when revisions are requested to an

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[9] *See*, letter *from* S.C. Riva, USEPA, to R. Frontanes, Pfizer Pharmaceuticals LLC, Sept. 23, 2015 ["Pfizer Determination"]. In the Pfizer determination USEPA conveys its non-applicability determination for proposed relaxation of synthetic minor limitations that had been imposed in 1994 in order to establish synthetic minor status with respect to NOx emissions from a project that involved installation of five diesel generators and two boilers. The synthetic minor limitations imposed in 1994 established the combined potential to emit NOx from the seven new units at 56 tons per year; if the combined potential to emit had been 65 tons per year or more, the project would have been a major modification. USEPA's 2015 applicability determination allowed relaxation of the limitations such that the new potential to emit would be 90 tons per year; the USEPA's source obligation analysis relied on the fact that other facts had changed during the intervening time period and it gave no consideration to the fact that, had the combined potential to emit been 90 tons per year historically, the project would have been a major modification. [Footnote 19 in US Steel's comments of January 2024.]

air pollution control construction permit for a project to correct errors in the previous permitting of the project, as is requested by the Application, one must return to or revisit the previous permitting of the project. If correction of errors in the previous permitting of a project are requested concurrently with a request for permitting of a new project, the correction of past errors and the permitting of the new project must be considered separately. The requests cannot be simply considered together or merged without distinguishing between the two requests because the relevant circumstances underlying the determinations of NSR applicability for the requests are almost certainly not the same. In addition, the regulatory provisions governing the NSR applicability determinations may be different as USEPA revised the applicability provisions of its NSR rules in its 2002 NSR Reform Rulemaking.

The Approach Put Forth in this Comment for NSR Applicability for Relaxation of Limitations Is Not Supported by Applicable Rules

The interpretation of the so-called source obligation provisions in the PSD and NaNSR programs claimed by this comment is not supported by the actual language of the provisions.[102] Indeed, the actual language of these provisions suggest that when an NSR applicability analysis that resulted in a project being permitted as a non-major project must be revisited because increases in the established permit limitations are requested, the new applicability analysis should address circumstances as they should previously have been addressed for purposes of applicability of NSR. That is, a "retrospective approach" is required, not a prospective approach as claimed by this comment. A "retrospective approach" to applicability of NSR is directly suggested by the subject provisions as a superficial reading of these provisions could lead a person to conclude that all aspects of NSR shall be addressed in such a permit proceeding as if construction of the subject source or modification "had not yet been commenced." In other words, applicability of NSR needs to be addressed as it should have originally been addressed, i.e., "as if construction of the source or modification had not yet commenced." As such, the interpretation of the source obligation provisions claimed in this comment cannot simply be accepted on

[102] To address errors in the original permitting of the Project, the Application requests increases in the permitted NOx emissions of certain emission units. These requests seek "relaxation" of the current limits as a relaxation may be defined simply as "a loosening or slackening" or "a reduction in strictness or severity." (*The American Heritage College Dictionary, Third* Edition, 1993).

its face.

Moreover, what is more significant, is that this comment does not show that the revised NSR applicability analyses for the Project in the Application actually conform to the requirements of 35 IAC 204.550(a) and (b) and 35 IAC 203.208(a) and (b). This is because these analyses for the Project for emissions of PM, PM_{10}, NOx and VOM, are "prospective" since they rely on decreases in emissions that are not contemporaneous with the Project, as it was permitted in 1996. Moreover, as the Application requests corrections to Permit 95010001 to address errors in the original permitting of the Project, the revisions to Permit 95010001 are not directly governed by the so-called source obligation provisions of the NSR rules.[103]

With regard to the language of the so-called source obligation provisions, these provisions do not address whether the "new" or updated NSR applicability analysis for a project for which relaxation(s) in limitation(s) are requested should address the circumstances as of the original permitting of the project or, as audaciously claimed by this comment, the circumstances as of the time of this request. This is clear from the language of the rules.[104] This comment also acknowledges, perhaps unintentionally,

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[103] It is also noteworthy that all the revised "NSR applicability analyses" in the Application are entitled "Revised [Pollutant] PSD Net Emissions Increase Analysis," (Application, Appendix B – Emission Calculations). In particular, there is not a separate revised analysis for NOx addressing the applicability of NaNSR. Likewise, there are not revised analyses for NaNSR for particulate even though in 1996, Granite City was in an area that was nonattainment for PM_{10}. It is assumed that this was inadvertent and US Steel intended to address applicability of PSD and/or NaNSR as appropriate for different pollutants. Thus, the Illinois EPA in its response refer to all revised applicability analyses in the Application as NSR analyses.

In this regard, the mechanics of the applicability provisions of PSD and NaNSR are such that if a project is "PSD major" for a pollutant, it would also be "NaNSR major" for the pollutant if NaNSR was applicable for that pollutant. However, the converse is not true because the applicability provisions of PSD and NaNSR are not identical. In particular, Illinois' NaNSR rules, 35 IAC Part 203, have not been revised to reflect NSR Reform and do not provide for Project Emissions Accounting.

[104] For example, 35 IAC 204.850, the so-called Source Obligation provision in Illinois' PSD rules, which have been SIP-approved by USEPA, provides:

> At such time that a particular source or modification becomes a major stationary source or major modification by virtue of a relaxation in any enforceable limitation established after August 7, 1980, on the capacity of the source or modification otherwise to

that a distinction exists between the determination of NSR applicability for a proposed increase in the permitted emissions of a project and the requirements of NSR that are actually addressed in the so-called source obligation provisions.[105]

Once it is recognized that the so-called source obligation provisions do not provide for a different approach for the NSR applicability analyses for certain relaxations of limitations, one realizes that such determinations are subject to the provisions of the NSR rules that generally apply for such determinations. This is evident as the introductory clauses of the so-called applicability provisions provide that "At such time (emphasis added) that a particular (emphasis added) source or modification becomes a major stationary source or major modification." As such, the provisions address how permitting of relaxation(s) of limitation(s) established for a source or project should be addressed when such relaxation(s) are requested. The provisions then go on to indicate those relaxation(s) should be addressed "…as though construction had not yet commenced (emphasis added) on the source or modification." A straightforward reading of this phrase would indicate that the provisions of NSR for a project for which a so-called source obligation provision becomes applicable should address the circumstances of the project as they would have been previously addressed with the relaxation(s) that are now being requested. This reading is buttressed as it is preceded by the phrase, "at such time …." In other words, requirements should not be applied as of the time that that the relaxations are made but as of an earlier time, "… as though construction had not yet commenced on the source of modification." With respect to applicability of NSR for a project, relaxations of emission limitations should not be addressed "prospectively" as broadly claimed by this comment.[106]

> emit a pollutant, such as a restriction on hours of operation, then the requirements of Sections 204.810, 204.820, 204.830, 204.840, 204,850, 204.1100, 304.1110, 204.1120, 204.1130, 204.1140, 204.1200 and 204.1400 (emphasis added) shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[105] This is shown as this comment states that "Applicability analyses performed in order to determine whether the source obligation provisions apply (emphasis added) in conjunction with a requested relaxation are prospective, not retrospective."

[106] When examining the language of the source obligation provisions, it is also noteworthy that, when applicable, they actually provide that the

The Approach Put Forth in this Comment for NSR Applicability for Relaxation of Limitations Is Contrary to Sound Public Policy

An approach to relaxation of emission limitations that prohibits unrestricted "backsliding" is generally appropriate as a matter of public policy. It serves to prevent a source from benefiting as it would circumvent NSR solely by virtue of the relaxation of emission limitation(s) that have been established by the permitting authority and accepted by the source for a project so that it would not be a major project. For example, as a project would become a major project as a consequence of the relaxation of limitation(s), consideration should not be given in the determination of Best Available Control Technology (BACT) for the additional cost (economic impact) of retrofitting BACT technology for units given their current configuration. Any such retrofit costs that would now be posed by applicability of NSR due to a relaxation should not be considered as those costs would not have been present if the determination of BACT had originally been made and used for the project.[107]

The approach put forward in this comment to NSR applicability

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"requirement of NSR" shall apply as though construction had not yet commenced. This comment presumes that the term "requirements of NSR" extends to the applicability provisions of NSR, rather than only encompassing the substantive provisions of NSR for a major project, such as BACT. In this regard, 35 IAC 204.850, makes clear that the requirements that are being addressed for a relaxation of limitations are the substantive provisions of PSD and not the applicability provisions of PSD. This is because it specifically identifies the provisions of 35 IAC Part 204 that would apply as if construction had not yet commenced. (The substantive "permit provisions" of 35 IAC Part 204 listed in 35 IAC 204.850 are: Sections 204.810, Source Information; 204.820, Source Obligation; 204.830, Permit Expiration; 204.840, Effect of Permits; 204.850, Relaxation of a Source-Specific Limitation; 204.1100, Control Technology Review; 204.1110, Source Impact Analysis; 204.1120, Air Quality Models; 204.1130, Air Quality Analysis; 204.1140, Additional Impact Analysis; 204.1200, Additional Requirements for Sources Impacting Federal Class I Areas; and 204.1400, Recordkeeping and Reporting Requirements for Certain Projects at Major Stationary Sources.) As such, the Source Obligation provisions should not be read to contradict the general principle that corrections to permits require that the permitting action in which the error was made be revisited.

[107] Likewise, in the air quality impact analysis for a project pursuant to the PSD rules, the impacts of the entire project with the requested relaxation should be addressed, not just the impacts of the increases in emissions from the relaxations. The impacts of a project for purposes of PSD should not be allowed to be understated simply due to a relaxation of the limitations previously established for the project.

analyses when permitted emissions of a project would increase is absurd. It would potentially allow a source to simply renounce or renege on commitments made in the previous permitting of a source or modification to avoid status as a major project. This is because it would allow the permitted emissions of a project to be increased with relaxation of limitations established for the project relying on emission decreases that were not originally part of a project and are outside of the contemporaneous period for the previous permitting of the project. As such, it would be contrary to the fundamental principle that, as NSR permitting is based on potential emissions, limitations that are established to restrict potential emissions cannot simply be relaxed without undergoing NSR if the relaxation would result in a project that was previously non-major becoming a major project.[108]

The Approach Put Forth in this Comment for NSR Applicability for Relaxations Is Not Supported by Relevant USEPA Determinations

The approach to the so-called source obligation provisions put forth by this comment is not consistent with USEPA's well-established practice in prohibiting circumvention and back-sliding as a result of relaxation of limitations established in permits. This is shown in a USEPA determination addressing back-sliding in the context of a proposed relaxation of limitations established for and accepted by Bombardier Motor Company of America to establish status as a non-major source. (A copy of this determination, "the Bombardier determination," is provided in this Responsiveness Summary as Appendix 1.1.[109]) This determination involved the change in nonattainment designation of an area from severe nonattainment for ozone under the former

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[108] From this perspective, it should be apparent that USEPA adopted the so-called source obligation provisions in its NSR rules to appropriately address revisions of permits that would relax limitations and increase permitted emissions of projects absent any accompanying physical change or change in the method of operation, i.e., absent a new project. If USEPA had intended that such relaxations be addressed in the manner claimed by this comment, USEPA would not have needed to adopt these provisions.

[109] Copies of the Bombardier Determination, as well as two other USEPA determination referred to by the Illinois EPA in this Responsiveness summary, are included in this as appendices to this Responsiveness Summary. This was done to enable interested parties to readily review these USEPA determinations in their entirety and independently review the representations about these determinations made in US Steel's comments and the Illinois EPA's responses. In this regard, not all of these determinations are currently available on the USEPA's internet compendium of NSR documents, New Source Review Policy and Guidance Document Index.

National Ambient Air Quality Standard (NAAQS) on a 1-hour average (major source threshold of 25 tons of VOM per year) to moderate nonattainment under the NAAQS for ozone on an 8-hour average (major source threshold of 100 tons of VOM per year). USEPA found that the relaxation of the limitations established when the area was severe nonattainment to keep VOM emissions below 25 tons/year would trigger the substantive requirements of NaNSR as if construction of the source had not yet commenced. USEPA referred to the so-called source obligation provisions in the federal guidelines for state PSD programs, 40 CFR 51.165(a)(5)(ii). USEPA found the following:

> Bombardier's 25 TPY emissions limit was a requirement in a minor NSR permit, and the limit was taken to avoid application of major NNA NSR [NaNSR]. Based on the language in the rule, the revocation of the 1-hour NAAQS should not allow relaxation of the permit limit without triggering major NSR.
> Bombardier Determination, Letter from Pamela Blakley, Chief, Air Permits Section, USEPA, Region 5, to Jeffrey Hanson, Permits and Stationary Source Modeling Section, Bureau of Air Management, Wisconsin Department of Natural Resources, September 22, 2005.

The USEPA's approach to the so-called source obligation provisions is more fully explained in a determination for PSE & G Fossil LLC (the "PSE & G Determination). (A copy of the PSE & G Determination is included as Appendix 1.2 of this Responsiveness Summary.) In this determination, USEPA explains that the proposed relaxation of certain operating and limitations in the existing permits for the subject generating stations would necessitate two separate analyses to determine NSR applicability, i.e., one would be concurrent with the request for relaxation of limitations; the other would address the relaxation as though construction had not yet commenced on the modification.[110] This USEPA determination again shows that

[110] In the PSE & G determination, USEPA explains that:

> In order to determine PSD applicability in this case, two specific, separate and independent tests must be performed: (1) the standard PSD applicability test pursuant to 40 CFR § 52.21(a)(2)(ii) to determine whether a significant net emissions increase under a physical change or change in the method of operation would occur; and (2) the 40 CFR 52.21 test which treats a modification "as though construction had not commenced on the source or modification." Each applicability test is to have its own baseline period

the revised NSR applicability analysis accompanying the relaxation of the NOx emission limitations for certain units requested by the Application must revisit the original permitting of the Project.

The Approach Put Forth in this Comment for NSR Applicability for Relaxations Is Not Supported by the Pfizer Determination

The USEPA's determination for Pfizer Pharmaceutical, as cited by this comment (the "Pfizer Determination," which is included in this Responsiveness Summary as Appendix 1.3), did not involve corrections to permit limitations to address errors in the prior permitting of a project. As such, this determination is not illuminating as to the approach that should be taken for the revised NSR applicability analyses in the Application. It certainly does not support the position put forth in this comment.

Unlike the revisions to Permit 95010001 requested by the Application, the Pfizer Determination did not involve a situation where a non-major project would potentially become a major project due to the requested changes to established permit limitations. Rather, the Pfizer Determination, as specifically described in the determination, involved a potential change or

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and contemporaneous period that will be different for each test. The general applicability review in accordance with the first citation above would subject a modification to PSD requirements in those cases where a physical change or a change in the method of operation would result in a significant emissions increase of a regulated pollutant.

...

The second test under 40 CFR § 52.21(r)(4) has not been done. While you acknowledge in your December 3rd letter that EPA verbally communicated to your consultant our position that the aforementioned PSD provisions would apply in this case, you have indicated that you disagree with this interpretation. … Regardless, EPA remains of the opinion that the (r)(4) provision applies in this case. This PSD provision does not discuss intent; it simply states that any relaxation of an established limit that would make the project "major" would at that point in time make PSD applicable. That is, the (r)(4) provision must be considered for the life of any project for which enforceable limits were established such that any subsequent request for a relaxation of the aforementioned limitations will necessitate their review within the originally-issued permits.

Letter, February 11, 2009, from Steven Riva, Permitting Section Air Programs Branch, USEPA, Region 2, to William Viola, Director Power Generation PJM, PSE&G Fossil LLC, Re: Request for PSD Applicability Determinations for the Burlington 12 and Kearny 12 Generating Stations.

relaxation in 2015 to an emission limitation for NOx established for a 1994 project in view of subsequent permitted construction projects since 1994 at the facility. The determination does not involve revisions to the established limitation in order to correct error(s) that occurred when that limitation was established. Indeed, nothing in this determination suggests that Pfizer requested that the subject limitation be raised because NOx emissions have been or may be higher than were allowed. USEPA considered whether the requested relaxation of the limitation would involve circumvention of PSD and found that "…Pfizer is not attempting to circumvent PSD applicability …."[111]

The Approach Put Forth in this Comment for NSR Applicability for

[111] The Pfizer Determination was made in 2015 for a pharmaceutical manufacturing facility located in Puerto Rico. As described in this determination, the permitting for the 1994 project, for which the relaxation of the emission limitation was requested, took place when the facility was a major source for PSD (potential emissions of both SO_2 and VOM more than 100 tons/year). When the 1994 project was permitted, the overall NOx emissions of the facility were limited to 56 tons/year. This served to restrict the net increase in NOx emissions from the project to 28.88 tons/year. As such, the net increase in NOx emissions from the project was limited to less than 40 tons/year, the NSR significant emission rate for NOx, so the project was not a PSD major modification.

As part of the permit for a subsequent, 2002 construction project, the facility's emissions of all NSR pollutants were each limited to below 100 tons/year so that the facility was no longer an NSR major source. Then, in 2015, in conjunction with another construction project, Pfizer also requested that the 56 tons/year permit limitation for NOx set for the 1994 project be replaced or subsumed by the overall limitation for the NOx emissions of the facility, 90 tons/year. USEPA found that this request was approvable, after specifically observing that Pfizer has stated that it had operated as a minor PSD source since 2002.

> EPA's review of the information indicates that Pfizer is not attempting to circumvent PSD applicability [emphasis added] by requesting to increase the 1995 PSD non-applicability NOx PTE limit from 56 tons/year to 90 tons/year because the facility or the 1994 [sic] modification does not become a major stationary source or major modification solely by virtue of this NOx emission limit relaxation, In addition, the "synthetic minor" minor status has been maintained by Pfizer since 2002 and will continue to be maintained after the proposed modification, Furthermore, Pfizer is also not requesting any changes to its annual fuel and hours of operation restriction put in place pursuant to the 1995 non-applicability determination.
>
> Pfizer Determination, p. 2.

Relaxation of Limitations Is Contrary to Statements by USEPA

Certain statements made by USEPA in a 1989 rulemaking on NSR are instructive as to the function of the so-called source obligation provisions. In this rulemaking, USEPA directly explains that these provisions require a source or modification that has been permitted as being non-major for NSR but is subsequently determined to be major because it cannot comply with limitations established in the non-major permit issued for the source or modification, must then be subject to major NSR permitting.[112]

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[112] In its 1989 rulemaking on NSR, the USEPA addresses the so-called source obligation provisions in discussions concerning the "potential to emit" or potential emissions and the enforceability of limitations that restrict potential emissions. In this rulemaking, the USEPA concluded that it was appropriate to require that limitations that restrict the potential to emit be federally enforceable. While USEPA subsequently found that it is also acceptable for such limitations to be legally and practically enforceable by a state or local air pollution agency, this does not affect USEPA's conclusions with regard to enforceability of limitations and the so-called source obligation provisions. The USEPA also acknowledged that the so-called source obligation provisions could result in after-the-fact, retrospective review and NSR permitting for a new source or modification. In this regard, the USEPA made the following observations. While in certain places, these observations refer to "sources," the observations are equally applicable for modifications.

> These same qualities of a federally enforceable permit make it much easier to determine if, at a later date, whether the terms or intent of the permit have been violated and, if so, what enforcement action is appropriate. There are three options available to EPA [USEPA] for when a federally enforceable State permit has been or will be violated.
>
> One option is simply to enforce under section 113 [of the Clean Air Act], the limitations in the permit which enable the source to avoid NSR in the first place, with the result that the source retains its minor status. This is appropriate where, despite the permit violations, it appears that the source intends to adhere to the emissions limitations in the future. However, EPA retains the right to enforce PSD or nonattainment NSR violation as well.
>
> The second option is to invoke the "source obligation" regulations, e.g., 40 CFR 52.21(r)(4), and treat the source as major requiring to obtain a PSD or nonattainment major source permit. This course is appropriate where the source, through a change in business plans, or through belated realization that its original plans cannot accommodate the design or operational limitations reflected in its minor source permit [emphasis added], can no longer adhere to the limitations in that permit, and so exceeds them. As discussed in the preamble to the 1980 regulations, this option is also appropriate where the source (after receipt of its minor source permit) notifies the permitting authority in advance of its changed plans or expectations and the need for a future relaxation of the limitations in its current permit, without actually violating those limitations before obtaining a major source permit (see 45 FR 52689). Under either set of

The Approach Put Forth in this Comment for NSR Applicability for Relaxation of Limitations Is Not Actually Taken in the

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circumstances, pursuant to the "source obligation" regulation, EPA treats the source "as though construction had not yet commenced" for purposes of PSD or nonattainment permitting purposes (emphasis added).

The EPA believes that the exceedance or relaxation of a minor source permit, and the subsequent obtaining of a major source permit through compliance with the "source obligation" regulation, may not routinely involve penalties or additional sanctions other than those provided in section 113 for any period in which the source actually exceeded the limitations in its minor source permit. The EPA today clarifies, though, that a third general enforcement option is necessary and available under the [Clean Air] Act and EPA's regulations in certain situations.

This third enforcement option is appropriate where EPA determine that a source obtained a permit containing limitations allowing it to escape preconstruction review as a major new source or major modification, not for the purpose of adhering to those limitations for an appreciable period of time in accordance with some legitimate business plan, but primarily with an intent to construct, and possibly begin operation of a major new source or major modification without first obtaining a PSD or nonattainment permit. In such circumstances, EPA enforces the "source obligation" regulations, as in option two above "as though had not yet commence." In keeping with the retrospective orientation of the "source obligation" regulations [emphasis added], however EPA looks to the beginning of actual construction on the new source or modification for additional enforcement action under sections 113 and 167 as well. …

… As a general matter, it is abundantly clear that Congress intended the NSR provisions in Parts C and D [of the Clean Air Act] to require preconstruction review of major new sources and modifications. See, *e.g.*, section 160(5), 165(e)(1) and (2), 110(a)(2)(I), 172(a)(1), 172(b)(6), and 173. The evident air quality planning and technology-forcing purposes of the [Clean Air] Act's NSR provisions make the reasons for Congress' choice of statutory framework equally obvious. It is much easier, both in technical and practical terms, to consider air quality impacts and pollution control requirements of a major new source of air pollution before it has been constructed and begun operation rather than after. Nevertheless, there is a need to accommodate sources which, for legitimate business reasons, have constructed and begun operation as minor sources, but later discover that they now do, or in the future will, emit air pollutants that will require them to be treated as major. In those circumstances, postconstruction review is unavoidable and the "source obligation" regulations in 40 CFR 52.21(r)(4) and elsewhere are designed to fulfill this need.

USEPA, 40 CFR Parts 51 and 52: Requirements for Preparation, Adoption and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans, Final Rule, June 28, 1989 (54 Federal Register 27274), p.27280.

Application
The approach taken in the revised NSR applicability analyses in the Application is not actually consistent with the approach to the so-called source obligation provisions argued for in this comment. This is because, contrary to what is claimed, the revised NSR applicability analyses in the Application do engage in "…mixing facts from different points in time." The baseline emissions in the revised applicability analyses are revised determinations of baseline emissions as US Steel now believes should have been originally determined for the Project. In this regard, the revised determinations of baseline emissions for certain pollutants reflect revised values for certain emission factors for which the original factors have been found to be erroneous. The revised determinations of baseline emissions also now account for emissions from burning coke oven gas in Project-affected units, which were not addressed originally. As such, in the Application, US Steel has addressed baseline emissions for the Project as if it were 1996 and construction on this Project had not been commenced.[113] However, future emissions with the Project are addressed beginning at a point in time over almost 20 years later, when there have been certain decreases in emissions from various actions.[114]

B2. The Application Shows That the Project Would Not Become a

[113] In this regard, if one accepts that the so-called source obligation provisions give guidance on how applicability of NSR should be addressed when revisions to limitations established for a Project are requested, the provisions act to preserve the time period that is to be used for the determination of baseline emissions. A source is not required to make an entirely new determination of baseline emissions that is representative of a time period that is contemporaneous with the request for relaxation(s) in limitation(s). And, indeed, in the Application, US Steel has not provided new determinations of baseline emissions that would be contemporaneous relative to the timing of the Application.

The situation would be different if, rather than requesting relaxation(s) of limitation(s) established for an existing project, a source is requesting a permit for a new project. In this regard, a new proposed project would involve something more than relaxation of the established limits, such as proposed physical changes to emission units that would increase their operational capacity, with accompanied potential increases in emissions. Appropriate determination(s) of baseline emissions would be required for the new project, with such determinations being representative of actual emissions in the time period before the proposed project, as required by the then applicable NSR rules.

[114] Neither this comment or other comments submitted by US Steel address, much less provide support for, the disjointed or asynchronous approach to the revised NSR applicability analyses actually provided in the Application.

Major Modification with the Requested Increases in NOx Emissions

The Revised NOx emissions increase calculations in the Application fully conform to and satisfy the source obligation provisions of the PSD and NaNSR rules. US Steel's prospective calculation of potential NOx emissions from the certain fuel combustion units affected by the Project includes zero emissions from Boilers 1 through 10, which accurately represents the future potential to emit of those boilers because they no longer exist; does not include the greater NOx emission rates of Boilers 11 and 12 prior to the required retrofit of flue gas recirculation in those boilers; and includes zero emissions from combustion of coke oven gas (COG) as fuel, which accurately represents the future emissions of units that previously burned COG because COG is no longer an available fuel at the facility. As discussed further in comments below, if the Illinois EPA were to revise Permit 95010001 with the requested relaxations and other changes to the limitations in the permit currently in effect, the Project will not become a major modification solely due to those relaxations.

In this comment, US Steel confirms that the revised netting analysis in the Application for NOx, PM, PM_{10}, and VOM are not proper because, as they address emissions with the Project, are "prospective" in nature. That is, the calculations in the Application for the net increase in emissions from the Project address the future potential emissions of the Project-affected units but not the potential emissions of the Project with the requested increases in the permitted NOx emissions of certain units. In this regard, as specifically confirmed by this comment, the revised netting analysis would rely on certain decreases in emissions as identified in this comment that were not contemporaneous with the Project and, indeed, did not occur until long after the Project was completed and US Steel took ownership of the Granite City Works. Then, the Illinois EPA's review of relevant data found that, absent these decreases in NOx emissions due to the listed actions, the Project could be a major modification for NOx with the increases in NOx emissions of the BOFs that are requested to correct errors in the original permitting of the Project as are still reflected in the current permit for the Project.[115]

[115] Incidentally, the comment also incorrectly states that for NOx emissions with the Project, the revised NSR applicability analysis "… includes zero

C. NOx Emissions Associated with a Facility Configuration No Longer Authorized or Under a Counterfactual Hypothetical Are Immaterial to the "Source Obligation" Demonstration

Contrary to the plain language of the source obligation provisions, Illinois EPA suggests that the revised NOx netting analysis for NOx provided in the Application is deficient because it reflects the prospective reality for the Project-affected fuel combustion units at the facility, not any counterfactual hypothetical. The Illinois EPA theorizes that "Accordingly, in 1996, the NOx emissions of fuel burning units allowed by Permit 95010001 must necessarily be more than the baseline emissions…" and that, "…the future NOx emissions of the fuel burning units for purposes of any revised netting analysis should be expected to be substantially greater than their baseline emissions." (Denial Letter, Attachment 1, Footnote 11, p. 6)[116] For purposes of the source obligation analysis, this is plainly untrue, as the total baseline NOx emissions of these units are 956 tons per year and the total maximum future emissions are 706 tons per year. The Draft Denial Letter does not identify any provision of the Act or the Illinois Administrative Code requiring an applicant to anticipate, address, or refute the unsupported expectations of the Illinois EPA as part of the construction permit review process.

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emissions from combustion of coke oven gas [COG] as fuel, which accurately represent the emissions of units that previously burned coke oven gas (emphasis added)." However, Project-affected units that were burning COG, e.g., the blast furnace stoves, were not shutdown when COG ceased to be available. Rather, they continued to operate with their other fuels, e.g., blast furnace gas and natural gas, and continued to emit NOx. In addition, the principal way to make up for the inability to use COG in these units would have been to use natural gas, increasing the usage of natural gas.

[116] See, also, Attachment 1 at pp. 5 and 11, suggesting that the revised NSR applicability analysis for NOx should include "future NOX emissions" greater than zero from Boilers 1 through 10; at p. 5, suggesting that the revised applicability analysis should include greater NOx emission rates from Boilers 11 and 12 based on the configuration of those boilers as they existed at the time the Project was implemented; at p. 5, suggesting that the revised applicability analysis should include greater NOx emission rates from Boilers 11 and 12 and from the blast furnace stoves based on the use of coke oven gas as fuel in those units. Each of these suggestions is demonstrably inconsistent with the current and future operation of the Granite City Works and is not properly considered in the source obligation analysis. (Footnote 20 of US Steel's Comments of January 2024.)

As already explained, the so-called source obligation provisions do not provide what this comment claims with regard to the revised NSR applicability analysis that must accompany US Steel's requests for relaxation of established permit limitations, i.e., that these provisions provide that such analysis must be prospective or forward looking rather revisit the prior NSR applicability analysis that led to the imposition of the limitations for which revisions are requested. US Steel's comments have not identified any language, much less "plain language," in the source obligation provisions that specifies that the NSR applicability analyses accompanying requested relaxations of established limitations are to be prospective in nature in circumstances when the source or modification becomes major solely by virtue of the requested relaxations.[117, 118]

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[117] As already discussed, the Application does not indicate that the increases in the NOx emissions of the blast furnace casthouse and the BOFs that are requested are due to further physical changes or changes in the method of operation of these units, i.e., modifications as defined by the NSR rules of these units separate from changes that were originally part of the Project. In addition, the revised NSR applicability analysis for NOx in the Application addresses applicability of NSR for the Project, not applicability of NSR for certain subsequent physical changes or changes in the method of operation of these units.

[118] An important aspect of the so-called source obligation provisions, which is not directly confronted in US Steel's comments, is that, as written, these provisions only apply to circumstances in which a source or modification becomes major solely due to the relaxation of limitations that previously served to constrain the source or modification so that it would not be major for purposes of NSR. These provisions arguably do not apply where the emissions of a source or modification would increase due to a "new project," that is, a new physical change or change in the method of operation that qualifies as a modification under the NSR rules. In those circumstances, the applicability of major NSR to the changes to a source is to be addressed as generally provided by the NSR rules. That is, the applicability of NSR is to be determined considering the increases in emissions from the new project and, if proposed by the source, the net increases in emissions for the new project. The contemporaneous period for the permitting of the new project is related to the timing of the new project. If the new project is determined to be a major new source* or a major modification, the substantive requirements of NSR, as applicable, are addressed concurrently with the permitting of the new project. The substantive requirements of NSR are not addressed retroactively, as provided by the source obligation provisions. That is, these requirements are not addressed as if construction had not yet begun on the earlier project for which limitations had been set so that such source or modification would not be major.

The so-called source obligation provisions are applicable only where the relaxation in established emission limitations and the request for increases in permitted emission occur independent of new physical changes or changes in the method of operation, i.e., absent a new or separate project. In such circumstances, there is not a new project that governs the timing of the

The claim that the Illinois EPA has improperly posed "a counterfactual hypothetical" is also clearly erroneous.[119] In this regard, this comment acknowledges that for the ten boilers that were originally part of the Project but are now shutdown, "U.S. Steel's prospective calculation of potential NOx emissions includes zero emissions of Boiler 1 through 10…, does not include the greater NOx emissions of Boilers 11 and 12 prior to the required retrofit of flue gas recirculation in those boilers; and includes zero emissions from combustion of coke oven gas…."[120] As such, the concern expressed in the Draft Denial Letters with

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contemporaneous period and whether contemporaneous emissions increases and decreases are creditable for the purposes of NSR applicability. The revised analysis of applicability of NSR with the requested relaxation of limitations and increases in emissions is still governed by the contemporaneous period and what would have been creditable for the original project. Then, if the subject project becomes major with the requested relaxations of limitations, the source obligation provisions provide that the substantive requirements of NSR apply as if construction of the original project had not yet commenced. Thus, the source obligation provisions impose appropriate consequences if a source or modification would become a major source or major modification due to the relaxation of enforceable limitations that served to avoid applicability of major NSR. The substantive requirements of NSR must be addressed as if construction had not yet been commenced.

* Note that the NSR rules provide that for a source that is not a major source, a physical change that would occur at the source that would constitute a major source, by itself, is also considered a major source. (For example, refer to 35 IAC 203.206(c).) The provisions of the NSR rules that set forth what is a major modification are not applicable to a source that is not a major source.

[119] For this purpose, it is assumed that the term "counterfactual" is used in this comment with its standard meaning to indicate that the Illinois EPA was addressing something that did not happen but could have happened or something contrary to fact. As such, it is unclear what was intended by the use of the term "counterfactual hypothetical," since the term "hypothetical" describes a premise that has not been proven to be true, at least at the time that such premise is being discussed or contemplated.

Then, in light of these meanings for these terms, the comment proceeds to suggest that it is improper for the Illinois EPA in the review of permit applications to consider "counterfactual hypotheticals." However, consideration of "counterfactual hypotheticals" is inherent in the review of permit applications, especially as construction permit applications address proposed emission units and control devices, proposed projects, proposed revisions to issued permits, or proposed increases in permitted emissions. The obligation of sources to address "counterfactual" circumstances or "hypotheticals" is set forth by Section 9 of the Act since, to obtain a permit, an applicant must submit an application that provides proof that applicable statutory and regulatory requirements will not be violated.

[120] Incidentally, the comment also incorrectly states that for the NOx emissions with the Project, the revised NSR applicability analysis "… includes zero emissions from combustion of coke oven gas as fuel, which accurately represent

respect to improper reliance on certain past decreases in NOx emissions does not even involve a counterfactual hypothetical as claimed by this comment..

Finally, the Illinois EPA does not dispute that Boilers 1 through 10 cannot resume operation, Boilers 11 and 12 must comply with 35 IAC 217.164, and the by-product coke oven batteries that have been shutdown cannot be returned to service.[121] However, Permit 95010001 did not require the shutdown of these units and, as such, provided for or authorized their continued operation. The shutdown of Boilers 1 through 10 was required much later, by Permit 06070023, originally issued in January 2008.[122] This permit authorized construction of a new cogeneration boiler at the facility. Condition 2.6(a) of this permit required Boilers 1 through 10 to be permanently shut down following the shakedown of this new boiler. (US Steel now refers to this boiler, which was constructed, as Power Boiler 1.) The installation of flue gas recirculation (FGR) systems on Boilers 11 and 12 was stimulated by the adoption 35 IAC 217.150 and 217.164 in August 2009. Compliance with the new emission standards was required to begin January 1, 2015. Finally, the shutdown of the two byproduct recovery coke oven batteries became enforceable after 2015 because US Steel had not applied for and has not been issued the construction permit that would be needed to rebuild these batteries and return them to service. As such, these actions and associated decreases in NOx emissions were not enforceable in 1996, when Permit 95010001 was originally issued. As such, these emission decreases are not creditable for purposes of emissions netting. This is because the relevant provisions for netting provide that for an emission decrease to be creditable for netting, the decrease must be enforceable at the time construction begins on the project for which

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the emissions of units that previously burned coke oven gas (emphasis added)." However, Project-affected units that previously burned COG, e.g., the blast furnace stoves, were not shutdown when COG ceased to be available. Rather, they continued to operate with the other fuels, e.g., blast furnace gas and natural gas, and continued to emit NOx.

[121] As related to these coke oven batteries, it would have been better if US Steel had requested that the CAAPP permit for the facility be amended and reissued so as to no longer address these batteries and the associated byproduct recovery plant.

[122] The planned shutdown of Boilers 1 through 10 was acknowledged earlier in a construction permit that addressed certain emission reduction projects at the Granite City Works, Permit 06070022, initially issued in January 2007. Condition 1(c) of that permit indicates that, "This permit also acknowledges the planned permanent shutdown of Boilers 1-10, which would accompany construction of a new cogeneration facility." The applications for Permit 06070022 and Permit 06070023 for the new cogeneration facility were submitted on the same day in July 2006.

the net emissions increase is being evaluated. For example, 35 IAC 204.550(e) and (e)(2) provide that, "A decrease in emissions is only creditable to the extent that: … It is enforceable as a practical matter at and after the time that actual construction on the particular change begins …."

In summary, this comment does nothing to address the fundamental difference in the positions of the Illinois EPA and US Steel with respect to how applicability of NSR for NOx should be addressed for the requested increases in the NOx emissions of the casthouse and BOFs. This comment certainly does not show that denial of the revised permit requested by the Application is inappropriate because there have been decreases in NOx emissions as a result of the shutdown of certain units that have taken place since the initial issuance of Permit 95010001 was National Steel commenced operation under Permit 95010001.

D. Project Emissions Increases and Net Emissions Increases

D1. The Illinois EPA's Review Relies on Calculations for NOx Emissions That Are Inconsistent with Requirements of the NSR Rules

The Illinois EPA's proposed denial of the revised permit requested by the Application is erroneous because, to the extent that Illinois EPA's review of the revised NSR applicability analysis for NOx in the Application relies on separate calculations of increases and decreases based on specific fuels and changes in fuels, the Illinois EPA's calculations are inconsistent with PSD and NaNSR rule requirements. The major modification applicability test requires a comparison of the pre-project actual emissions of the emissions unit or group of units with the post-project actual emissions (or potential to emit) of that emissions unit or group of units.[123] The definitions of net emissions increase do not provide for a calculation that considers only some portions of the units' emissions. For the certain fuel combustion units affected by the Project, the change in actual NOX emissions is properly calculated as the total post-project actual NOX emissions, regardless of the fuel or fuels being burned to generate those emissions, minus the total pre-project actual NOX emissions, regardless of the fuel or fuels that were burned to generate those emissions. This is the basis for the values shown in Table 6-8 of the Application.

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[123] By definition, the net emissions increase from a project is the sum of two values: The increase in actual emissions from the project and "Any other increases and decreases in actual emissions at the source that are contemporaneous with the particular change and are otherwise creditable." 40 CFR 52.21(b)(3)(i).

This comment does not show that the Illinois EPA's review of the revised NSR applicability analysis for NOx in the Application is flawed. Indeed, the comment is ridiculous. The NSR rules specify that applicability of NSR is determined comparing two values for emissions, the baseline emissions or emissions before a project before a project and the emissions with the project [124] However, the NSR rules do not specify that these values for emissions of a project-affected unit or units must be calculated in a particular was as claimed by this comment.[125] Moreover, continuous emission monitoring is not conducted for the various Project-affected fuel burning units for the amount or mass of NOx emitted. Accordingly, it is not possible to directly determine the overall emissions of these units from monitoring data. Most of the Project-affected fuel burning units burn more than one fuel, i.e., blast furnace gas (BFG) and natural gas, and, in some cases, at least in 1996, COG. The different heat content and composition of these fuels mean that their NOx emission rates in pounds/million Btu or pounds/million cubic foot (cf) of fuel burned are not identical. Thus, it is both reasonable and appropriate that the NOx emissions of individual units or groups of similar units be separately determined for each fuel with the overall emissions of each unit or group of similar units calculated as the sum of the contribution of the NOx emissions of each fuel to the overall emissions. Indeed, this is exactly what is done in the Application as it proposes corrections to the pre-project or baseline NOx emissions of Project-affected fuel burning units in Table 6-5 and in Appendix B - Emission Calculations, USS Granite City - 1996 Production Increase Project; Revised NOx PSD

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[124] Indeed, the definition for "net emissions increase," which is referred to by this comment, as well as other relevant provisions of the NSR rules addressing the net emissions, i.e., 35 IAC 203,208 and 35 IAC 204.550, do not even address the emissions of individual units or groups of emission units. Instead, they address the emissions of a "source," which, as defined in part by 40 CFR 52.21(b)(5) and (6) and 35 IAC 204.690 and 204.290, is a collection of pollutant emitting activities, i.e., a collection of emission units.

[125] the NSR rules do not specify, for example, for different types of emission units and circumstances when addressing applicability of NSR whether emissions are to be calculated based on emissions factors derived from unit-specific testing, emissions factors derived from representative emission testing of similar units, emission factors published by USEPA, emission factors developed by organization s other than USEPA, emissions factors developed from engineering calculations that account for the reduction in emissions that will be provided by the control measures that will be installed on units, or material balance calculation based on analysis of the pollutant content of the fuel, coatings or other raw materials. The NSR rules also do not specify how emissions are to be calculated for emissions units that have more than one mode of operation or several point of emissions.

Net Emissions Increase Analysis.[126]

D2. The Illinois EPA's Review Improperly Determined That Certain Emission Decreases Are Neither Contemporaneous Nor Creditable

As set forth in the Revised Draft Denial Letter, Attachment 1, Denial Point 1, page 4, the Illinois EPA proposes to deny the revised permit requested by the Application, at least in part, because Illinois EPA preliminarily determined that "additional decreases in NOx emissions that would now be proposed to be relied upon" by US Steel are not contemporaneous and otherwise creditable. These decreases occurred at certain fuel burning units affected by the Project. Emissions changes at these emissions units must be included in the calculation of the emissions increase that will occur as a result of the Project, under the first element in the definitions of the term "net emissions increase."[127] Therefore, it was proper to include the emissions changes involv2ing Project-affected fuel burning units in the updated calculation of the NOx emissions increase from the project, -10.7 tons per year, as shown in Tables 6-8 and 6-9 of the Application. (For convenience, copies of these tables are provided below.)

Table 6-8 of the Application:

NOX Project Emissions Increase Analysis

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[126] **For Project-affected fuel burning units, the Application uses NOx emission factors, in pounds/million cubic feet (cf) of fuel, of 5.28 for BFG, 306.0 for natural gas,* 80 for COG burned in blast furnace stoves and 404 for COG burned in Boilers 11 and 12. The NOx emissions calculated from burning each fuel in these units are then added together to provide overall values for the pre-project NOx emissions of the Project-affected fuel burning units. (Emissions of NOx from use of natural gas in continuous casting are not addressed.) (Refer to the Application, at p. 6-5, Table 6-5. Pre-project Actual Emissions and Summary of Proposed Changes to Pre-Project NOx Emissions Factor for Affected Emissions Units, and at Appendix B - Emission Calculations, USS Granite City - 1996 Production Increase Project; Revised NOx PSD Net Emissions Increase Analysis.)**

*** For natural gas, a single emission factor, 306.0 pounds/million cf, is used for the blast furnace stoves, the boilers, the ladle dryer-preheater, the BFG flares, and, presumably, the continuous casting molds.**

[127] Contrast this with the emissions changes at the blooming mill and galvanizing line shown in Table 6-9. Because those units were not affected by the Project, decreases in emissions at these units are among the contemporaneous changes that are considered under the second element in the definitions of net emissions increases. [Footnote 22 in US Steel's comments of January 2024.]

	NOX Pre-Project Actual Emissions (TPY)	Proposed Revised NOX Emissions Caps (TPY)	NOX Change (TPY)
Blast Furnace Operations	4.6	24.0	19.4
BOF Shop	179.8	400.0	220.2
Continuous Casting Operations	0.0	0.0	0.0
Certain Fuel Burning Units	956.3	706.0	-250.3
Total	1140.7	1130	-10.7

Table 6-9 of the Application:

Updated Net Emissions Increases for NOx for the 1996 Project

		NOx
Start of Contemporaneous Period		Jan 1990
End of Contemporaneous Period		Jan 1996
Project Emissions Increases		239.6
Significant Emission Rates		40
Whether Significant?		Yes
Project Emissions Changes (includes decreases at the fuel combustion units)		-10.7
Contemporaneous Emissions Increases	Date	
Installation of #8 Galvanizing Line	Mar-1996	n/a
Contemporaneous Emissions Decreases		
Blooming Mill Shutdown	Apr-1991	-217.8
Batch Annealing Shutdown	Dec-1991	-8.7
Net Emissions Increase		**-237.3**
Whether Significant?		No

This comment does not show that the Illinois EPA's proposed denial of the revised permit requested by the Application would be erroneous. This comment simply reflects US Steel's position with respect to the revised NSR applicability analysis for NOx with the requested increases in the permitted NOx emissions of certain units. That is, US Steel's position that the revised NSR applicability analysis should be prospective and should not revisit the NSR applicability analysis for the Project that originally led to such limitations being established. This comment cloaks US Steel's position under the guise of a definition of "net emissions increase," summarily claiming that the subsequent, "post-project" decreases in NOx emissions at certain Project-affected fuel burning units should be considered as part of the changes in emissions from the Project, rather than resulting from other "Non-project" actions. The only support provided for this claim is that these emissions decreases occurred at fuel burning emission units that

were Project-affected fuel burning units for the purpose of the original permitting of the Project. This is wholly inadequate to support treating these actions that reduced or eliminated the NOx emissions of the affected fuel-burning units as part of the Project.

It should be apparent by inspection that these actions are not part of the Project. They were not contemplated in 1996 and were not addressed by, much less required by, Permit 95010001 as issued in 1996. (They have never been addressed in Permit 95010001.) The first of these actions, the shutdown of Boilers 1 through 10, occurred more than ten years after operation of the Granite City Works began with the Project. The shutdown of these ten boilers was required by Permit 06070023, the construction permit issued for the construction of the new cogeneration boiler at the Granite City Works. As a general matter, the NSR programs do not require, as implied by this comment, that all projects that occur at an emission unit be aggregated together so as to be treated as a single project for purposes of NSR. The NSR programs also recognize that discrete projects that are separate can occur at unit(s).[128]

This comment also ignores the presence of the word "project" in the provisions of the NSR rules addressing "net emissions increases." The definitions of "project" and USEPA's determinations that involve the meaning of this term clearly indicate that when addressing the increase in emissions from a project for purposes of NSR, "post-project" emission decreases are not part of a project. In this regard, 40 CFR 52.21(b)(52) and 35 IAC 204.590 simply provide that "'Project' means a physical change or the change in method of operation of a source." They do not indicate that all changes at an emission unit constitute a project simply because they occur at the same unit. USEPA's policy on the meaning of the term "project" mainly focuses on whether changes that are treated by the owner or operator of a source as nominally separate projects, and not as a single modification, should appropriately be aggregated and considered a single project for purpose of applicability of NSR. While this is the converse of the issue presented by the Application, USEPA policy on when changes should be aggregated are also instructive as to when changes should not be aggregated. In this regard, USEPA has concluded that changes should be aggregated when they are substantially related, with consideration given to both technical and economic relationships that exist among the

[128] For example, refer to a memorandum concerning interpretations of the *de minimis* provisions of the PSD rules. (Memorandum, from Sheldon Meyers, Director of Office of Air Quality Planning and Standards, USEPA, to David Howekamp, Director, Air Management Division - Region IX, USEPA, Subject: Net Emission Increase Under PSD, undated (circa May 1983).)

various changes. USEPA has also found the timing of separate activities cannot, by itself, be used to determine whether they are substantially related. However, USEPA has also recognized that timing can be a simpler way, at least initially, to assess whether nominally separate changes are substantially related. The USEPA also broadly rejected the argument that as nominally separate changes at a facility all contribute to the basic business purpose and economic vitality of the facility, changes should be aggregated. The USEPA found that this overarching relationship between all projects at a source is not sufficient basis to aggregate projects for purposes of applicability of

NSR.[129, 130]

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[129] At this time, USEPA's official policy on "aggregation" for purpose of NSR, as reflected in this response, is its "2009 Aggregation Policy," as published in the Federal Register. (USEPA, 40 CFR Parts 51 and 52: Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Aggregation and Project Netting, Final Rule (74 Federal Register 2376, January 15, 2009).

USEPA affirmed the appropriateness of its "2009 Aggregation Policy" in 2018, upon concluding reconsideration of this policy. In its 2018 action, USEPA reinstated the 2009 Aggregation Policy, effective beginning November 15, 2018, lifting the stays on this policy. (USEPA, 40 CFR Parts 51 and 52: Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR): Aggregation; Reconsideration, Final Action (83 Federal Register 57324, November 15, 2018).

The USEPA's 2018 notice for the conclusion of reconsideration of the 2009 Aggregation Policy also provides insight on the meaning of the term "project" for purposes of NSR as it summarizes the 2009 aggregation policy and discusses USEPA's rationale for affirming this policy. As particularly relevant to the review of the Application, in this 2018 notice, USEPA touched on the issue posed by the revised NSR applicability analysis for NOx presented by the Application. USEPA notes that it was mindful that, as well as inappropriately treating changes as separate projects, permit applicants could propose to improperly aggregate separate projects in an attempt to circumvent NSR. Accordingly, USEPA's 2009 Aggregation Policy is appropriately applied to address both aggregation and "disaggregation" for purposes of applicability of both PSD and NaNSR. In this regard, USEPA states the following in its 2018 notice:

> To date, the EPA's [USEPA's] focus in formulating criteria for project aggregation has been to ensure that NSR is not circumvented through some artificial separation of activities as Step 1 of the NSR applicability analysis [the evaluation of the increase in emissions of the project] where it would be unreasonable for the source to consider them to be separate projects. However, in a March 13, 2018 memorandum[Footnote]8 on the topic of "project emissions accounting," the EPA broached the question of whether it might also somehow be possible for a source to circumvent NSR through some wholly artificial grouping of activities to include decreases in Step 1 of the NSR applicability analysis – i.e., assessing whether a project by itself results in a significant emissions increase before reaching Step 2, where one then determines whether there will be a significant net emissions increase by taking into account all contemporaneous increase and decreases across the source. While we [EPA] have been mindful of this question in deciding to employ the criteria described in this action, we intend to more fully [address] this scenario in the context of a subsequent rulemaking on the topic of project emission accounting.
>
> [Footnote] 8. Memorandum from E. Scott Pruitt, Administrator, titled, "Project Emissions Accounting Under the New Sources Review Preconstruction Permitting Program" (March 13, 2018)(hereinafter "Project Emissions Accounting Memorandum").
>
> 83 Federal Register 57324 (November 15, 2018), p. 57326.

Applying this guidance, it is readily apparent that the post-project activities and associated decreases in NOx emissions that have occurred at the Project-affected fuel burning units should not be considered part of the Project. These decreases were not the result of actions that were taken at the Granite City Works to achieve the increases in production of iron and steel authorized by Permit 95010001. Rather, these post-project activities involve actions taken by US Steel to benefit from co-generation of steam and electricity, to comply with newly adopted emission standards, and to streamline the facility by shutting down old by-product recovery coke oven batteries. The timing of these post-project decreases is well beyond the presumption adopted by USEPA that projects that are separated by more than three years should not be aggregated, absent rebuttal due to the substantial technical and economic relationships that are present.

Considering all the above, it should be apparent that Tables 6-8 and 6-9 from the Application, for which this comment includes copies, do not reflect an appropriate revised NSR applicability analysis for NOx for the Project. This is because the post-project decreases in NOx emissions, which are at issue, are not explicitly addressed, nor are they addressed elsewhere in the Application. In this regard, Table 6-9 does correctly show that the contemporaneous period for the Project for netting ended in January 1996. However, Table 6-8, which evaluates the increase in NOx emissions from the Project, considers and accounts for

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[130] In its 2020 rulemaking on the subject of "Project Emissions Accounting," the USEPA also specifically recognized the role of the 2009 Aggregation Policy for applicability of NSR. In this rulemaking, USEPA specifically found that the 2009 Aggregation Policy also provided appropriate guidance for "disaggregation" of projects for purposes of Project Emissions Accounting, as follows. (Note that this rulemaking is not directly applicable to Illinois' NSR rules as only federal NSR rules (i.e., 40 CFR 51.165. 51.166 and 52.21) were revised.)

> … while not previously contemplated by our [USEPA's] project aggregation policy, the EPA [USEPA] has concluded after review of the comments received in this proposal for action [[Project Emissions Accounting] that the "substantially related test from our 2018 final action on project aggregation interpretation and policy provides the appropriate basis for source to determine the scope of a project in Step 1 of the NSR applicability analysis. We believe that applying the 2018 final action of project aggregation interpretation and policy in this context alleviates concerns about potential NSR circumvention in Step 1 of the NSR modification applicability test.
>
> USEPA, 40 CFR Parts 51 and 52: Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR): Project Emissions Accounting, Final Rule (85 Federal Register 74890, November 24, 2020), p. 74900.

decreases in NOx emissions that are reflected in the "proposed revised NOx emissions caps" now proposed by the Application, 706 tons/year.[131] Thus, Table 6-8 does not actually address the increase in NOx emissions from the Project, i.e., the increase in emissions from the particular physical change or change in the method of operation for which the net increase in emissions to be evaluated.

As a counter to this comment, as it includes copies of two tables from the Application that provide revised NSR applicability analysis for NOx for the Project in the Application, the Illinois EPA has prepared several tables that, building upon the information for emissions provided in US Steel's analysis, depicting how this analysis would appropriately be viewed. The counter analysis, "Attachment A: "The Proper Approach, As Prepared by the Illinois EPA, to the Increase and Net Increase in the NOx Emissions of the Project with the Requested Revisions to Permit 95010001," is in Section 9 of this Responsiveness Summary. Attachment A includes three tables EPA that illustrate how the increase and net increase in NOx emissions from the Project with the requested increases in the NOx emissions of the casthouse and the BOFs would properly be addressed. They highlight the difference in how the Application approaches the revised NSR applicability analysis for NOx for the Project and how applicability of NOx should be addressed purposes of NSR. These tables depict why the Project would become a major NSR modification for NOx with the increases that the Application seeks in the permitted NOx emissions for these units. In this regard, this attachment relies on estimates for the increase in NOx emissions from the Project-affected fuel burning units with the Project that the Application does not address. These estimates for the Project-related emissions increase from these units, which are not addressed by the Application, range from about 160 to 235 tons/year. As such, the net increase in the NOx emissions from the Project almost certainly becomes more than the NSR significant emissions rate for NOx, 40 tons/year, with the requested revisions to Permit 95010001 to increase the permitted NOx emissions of the casthouse and the BOFs by more than 200 tons/year.[132]

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[131] It should not be overlooked that, as addressed in the Illinois EPA's response to Comment 1, Footnote 4, the Illinois EPA has not accepted the revised values in the Application for the NOx emissions of the Project-affected fuel burning units, e.g., the revised baseline NOx emissions of 956.3. This is because of concerns about the basis of the new calculations for NOx emissions, as are addressed by Denial Points 2 and 3A in the Revised Draft Denial Letter.

[132] This is as should be expected. Permit 95010001 was initially issued based on a 38.1 tons/year net increase in NOx emissions from the Project (Permit 95010001, issued January 25, 1996, Condition 41(a)). The Application requests that Permit 95010001 be revised to increase the permitted NOx emissions of the

D3. Even Omitting the Dispute Decreases in NOx Emissions from the Revised NSR Applicability Analysis for NOx. The Project Would Not Become Major

Even if the contribution of certain Project-affected fuel burning units was properly considered as among the other decreases under the second element of the provisions of NSR dealing with net emissions increases, rather than being considered with the emissions increase from the Project under the first element of these provisions, the contribution of the Project-affected fuel burning units need not be relied upon for the non-applicability determination for NOx in the application. The net NOx emissions increase from the Project as presented in Table 6-9 of the Application is -237.3 tons/year; even if the decrease of 250.3 tons/year as calculated by Illinois EPA is omitted from the analysis, the net emissions increase is 13.1 tons/year (-237.3 + 250.3 = 13.1). This is less than 40 tons/year, the NSR significant emission rate for NOx, significant level, so demonstrates that the Project would not become a major modification solely by virtue of the relaxations requested by US Steel. This alternative approach to the NSR applicability for NOx is presented below in Alternative Tables 6-8 and Alternative Table 6-9.

Alternative Table 6-8. NOx Project Emissions Increase Analysis (TPY)

	NOx Pre-Project Actual Emissions	Proposed Revised NOx Emissions Caps	NOx Change
Blast Furnace Operations	4.6	24.0	19.4
BOF Shop	179.8	400.0	220.2
Continuous Casting Operations	0.0	0.0	0.0
Certain Fuel Burning Units	956.3	706.0	0.0*
Total	1140.7	1130	239.6*

* For the revised NSR applicability analysis for NOx, this Alternative Table 6-8 presents an alternative approach to the evaluation of the increase in NOx emissions from the project by itself. In this alternative approach, a decrease in NOx emissions from the fuel burning units, 250.3 tons/year, is not counted. This is because it is considered to not be a creditable or contemporaneous decrease.

blast furnace casthouse and the BOFs by more than 200 tons/year. The Application does not identify errors in the original permitting of the Project that would lower the Project emissions in an amount that would compensate for this requested increase.

Alternative Table 6-9. Updated Net Emissions Increases for NOx for the 1996 Project (NOx Emissions in tons/year)

Project NOx Emissions Increase		
Project Emissions Change (excludes decrease at the fuel burning units)		239.6*
Significant Emission Rate for NOx		40
Is the Project Emissions Increase Significant?		Yes
Contemporaneous NOx Emissions Increases and Decreases (Contemporaneous time period January 1990 through January 1996)		
Contemporaneous Increases	Date	
None		
Contemporaneous Decreases		
Blooming Mill Shutdown	Apr-1991	-217.8
Batch Annealing Shutdown	Dec-1991	-8.7
Total		-226.5
Net NOx Emissions Increase		
Project Increase		239.6
Contemporaneous Increases and Decreases		-226.5
Net Change		13.1
Is the Net Change Significant?		No

* For the revised NSR applicability analysis for NOx, this Alternative Table 6-9 presents an alternative approach to the evaluation of the net increase in emissions from the project. In this alternative evaluation, the NOx emissions decrease of 250.3 TPY from fuel combustion units is not counted because it is considered not to be creditable or contemporaneous.

The "alternative approach" to the revised NSR applicability analysis for the Project for NOx presented and discussed in this comment does not demonstrate that the Project would not be a major modification for NOx with the requested increases in the permitted NOx emissions of the casthouse and the BOFs. This comment does nothing to advance US Steel's position with respect to how applicability of NSR for the Project for NOx should be addressed for the requested increases in the NOx emissions of the casthouse and the BOFs. Rather, this comment again simply reflects US Steel's position that, when evaluating the change in emissions of the Project with the requested revisions to Permit 95010001 to increase the permitted NOx emissions of the casthouse and BOFs, the revised NSR applicability analysis should be prospective, addressing the future emissions of the Project after considering certain decreases in NOx emissions that have occurred since 1996 and the present.

In effect, contrary to relevant provisions of the NSR programs, this comment again claims that the revised NSR applicability analysis for the Project should overlook the fact that the Project was originally permitted for a substantial increase in the NOx emissions of Project-affected fuel burning units.[133, 134] While in Alternative Table 6-8, the increase in the NOx emissions from these fuel burning units is zero (rather being a decrease as in Table 6-8 in the Application), this assumption is still not proper. In the alternative analysis, this flawed assumption again acts to free up or "repossess" the original contemporaneous and creditable emission decrease that were relied upon to keep the Project from being a major modification for NOx. These decreases are then being relied upon a second time to compensate for the requested increases in the permitted NOx emissions of the casthouse and BOFs. As such, the flaw in this alternative NSR applicability analysis is similar to the flaw in the analysis in the Application.

In addition, as has previously been explained, contrary to what is suggested in this comment, the Illinois EPA has not established a specific value that is appropriate for the "corrected" net increase in NOx emissions of the Project, i.e., the net increase in NOx emissions of the Project also now addressing the increases in the permitted NOx emissions of the casthouse and the BOFs that are requested by the Application.[135] The Illinois EPA has determined that this increase is such that the Project should be expected to become a major modification for NOx with the requested increase in permitted emissions. As discussed elsewhere in this Responsiveness Summary, this is based on estimates for the corrected net increase in NOx emissions of the

[133] As already discussed, the netting analysis for NOx in National Steel's application for the Project, for which the Application included a copy, indicates that the Project was originally permitted for an increase in the NOx emissions of Project~ affected fuel burning units from use of BFG and natural gas of 168.9 tons/year (488.48 tons/year, project emissions - 329.54 tons/year, baseline) = 168.9 tons/year, increase). (Application, Appendix C - Emission Calculations, Emissions Calculations Included in the 1995 Construction Permit Application, Table 3~2: Granite City Division of National Steel, Netting Analysis Summary - NOx (orig. 1/16/96).)

[134] US Steel has not shown that advantage was not taken of the permitted increase in the NOx emissions of the Project~affected fuel burning units provided for by Permit 95010001, as originally issued in 1996. The earliest that the actual NOx emissions of these units began to be enforceably lowered was in 2009 or 2010 in conjunction with the completion of construction and startup of the new cogeneration boiler.

[135] It should also be noted that the 250.3 tons/year decrease in NOx emissions that this comment indicates was "as calculated by the Illinois EPA" was actually provided by US Steel. (See the value for the NOx Change for Certain Fuel Burning Units in Table 6~8 of the Application.)

Project made by the Illinois EPA based on information in the Application. The lowest estimate for the corrected increase in the NOx emissions of the Project is more than 100 ton/years. Accordingly, in Alternative Table 6-8 the "NOx Change" for "Certain Fuel Burning Units" should be at least 100 tons/year, not zero tons/year. The corrected total increase for the Project then becomes at least 339.6 tons/year (19.4 (Casthouse) + 220.2 (BOF Shop) + >100 (Certain Fuel Burning Units) > 339.6). In Alternative Table 6-9, the corrected net increase in the NOx emissions of the Project becomes more than 113.1 tons/year, rather than 13.1 tons/year. (>339.6 (project increase) - 226.5 (contemporaneous and creditable decreases) > 113.1.) Thus, the Project would be a major modification for NOx with the requested revisions to Permit 95010001. The Application does not otherwise provide proof that if the corrected net increase in NOx emissions of the Project were properly evaluated in accordance with provisions of the NSR programs, the Project would not be a major modification for NOx.

In summary, the alternative revised NSR applicability analysis for the Project presented in this comment only shows a decrease in NOx emissions from the Project because this analysis relies upon post-project actions that have reduced the NOx emissions of the Project-affected fuel burning units.[136] In a proper revised NSR applicability analysis, which conforms to the relevant requirements of the NSR programs, the increase in NOx emissions from the Project-affected fuel burning units would be a positive amount, rather than being zero or negative. The increase in NOx emission from the Project would also be larger by that amount. As already discussed, the amount of this increase would almost certainly be large enough that the Project becomes a major modification for NOx given the increases in the

[136] In the alternative revised NSR applicability analysis presented in this comment, the assumption is that the NOx emissions of the Project-affected fuel burning units are now "unchanged." That is the magnitude of the "post-project" decreases that reduced their NOx emissions is such that their NOx emissions are now no more than their baseline NOx emissions (zero increase). Based on lowest estimate for the increase in the NOx emissions of these units with the Project made by the Illinois EPA, this is equivalent to the NOx emissions of these units now having been reduced by at least 100 tons/year compared to the NOx emission that were originally allowed by Permit 95010001.

The revised NSR applicability analysis in the Application indicates that the magnitude of the NOx emissions of the Project-affected fuel burning has actually been much greater, such that their NOx emissions are now at least 350 tons/year lower than their baseline emissions. Based on lowest estimate for the increase in the NOx emissions of these units with the Project made by the Illinois EPA, this is equivalent to the NOx emissions of these units now having been reduced by at least 350.3 tons/year (250.3 + 100.0 = 350.3) compared to the NOx emission that were originally allowed by Permit 95010001.

permitted NOx emissions of the Casthouse and BOFs that are requested by the Application.

E. Substantive Requirements of the PSD and NaNSR Programs Are Not Applicable with Respect to NOx Emissions

Because the Project would not become a major modification for NOx solely by virtue of the relaxations requested by US Steel, the substantive requirements of the PSD and NaNSR programs, i.e., the requirements of 35 IAC 203.601, 203.602, 204.1100, 204.1110, 204.1120 and 204.1130, are not required elements of the Application and the fact that these requirements are not addressed in the Application is not a valid basis for denial of the revised permit requested by the Application.

This comment does not show that the revision to Permit 95010001 requested by the Application should not be denied. If anything, this comment would present a reason why the requested revised permit should be denied. If one accepts for purposes of discussion that the requested increases in the permitted NOx emissions of the blast furnace casthouse and BOFs would not be solely due to the requested relaxations of the established limitations, as claimed by this comment, the Application does not identify or describe the "other cause(s)," i.e., reason(s) or purpose(s) for the requested revisions to the limitations for the blast furnace cathouse or BOFs established in Permit 95010001 other than correction of errors in the quantification of their emissions during the original permitting of the Project. The Application also does not address applicability of NSR with respect to the other cause(s) or reason(s) for the requested increases in the permitted emissions of these units, with new, "cause-specific" determinations of pre-project baseline emissions reflecting actual emissions prior to the occurrences of these other cause(s) or reason(s). Moreover, as the Application specifically requests increases in the permitted NOx emissions of the blast furnace casthouse and the BOFs of more than 200 tons/year, the Application does not show that these other cause(s) would not, by themselves, constitute a project that is a major NSR modification. Alternatively, if these other cause(s) would constitute a major NSR modification of the blast furnace casthouse and the BOFs, the Application does not address the substantive requirements of NSR as applicable relative to a major project due to those other cause(s) or reason(s). In other words, if one accepts the claim made in this comment, the Application is utterly deficient.

In fact, the Illinois EPA questions the truth of the claim made in this comment. US Steel submitted an Application that requested increases in or relaxations of the limitation established in Permit 95010001 for the

NOx emissions of the blast furnace casthouse and BOFs. If US Steel believed that the requested revisions to the established limitations for the NOx emissions of these units should be attributed to something other than errors in the original quantification of their emissions, it would have prepared the Application accordingly. Alternatively, US Steel would have submitted a separate application for a new construction permit to address that project.

IX. THE APPLICATION INCLUDES ALL REQUIRED INFORMATION PERTAINING TO PRE-PROJECT (BASELINE) AND POST-PROJECT NOx EMISSIONS CALCULATIONS ((DENIAL POINTS 2 AND 3))

In the draft denial letter, Attachment 1, the Illinois EPA asserts that the Application is deficient in that it omits certain information that is purportedly necessary for Illinois EPA to validate the PSD/NaNSR non-applicability determinations. As explained below, these assertions are without merit.

A. Usage of Coke Oven Gas (COG) During the Pre-Project, Baseline Period (Denial Point 2)

In the Draft Denial Letters, Attachment 1, the Illinois EPA correctly observes that the updated calculations of the NOx emissions change from the Project include the difference between the pre-project and post-project actual emissions from certain fuel burning units and that the calculation of pre-project actual NOx emissions rates for some of these units includes consideration of NOx formed from burning of COG, among other fuels.

The Illinois EPA asserts that the pre-project COG usage rates used in calculating these emission contributions "are not accompanied by any documentation or explanation," suggesting that it is not enough to identify the quantity of COG consumed in each type of affected fuel burning unit. With respect to an "explanation," this assertion is incorrect. The Application discusses the use of COG as fuel during the pre-project baseline period.[137]

Notably, the documentation provided for COG in the Application is indistinguishable from the documentation provided with respect to other fuels, both in the Application and in the original application submitted by National Steel, which was accepted by Illinois EPA when issuing Permit 95010001 in 1996. In all cases, what was provided was a table of usage values, with no primary source documents such as strip charts, because it is neither required nor customary to provide such

[137] See, *e.g.*, pp. 2-4, 4-2, 5-5, and 11-2 of the Application. Information is also provided in the appendices to the Application.

documents. Of course, pursuant to 35 IAC 201.152, the Illinois EPA retains authority to request additional documentation in conjunction with a construction permit application but that was not done here.[138]

With respect to additional documentation or further explanation, Illinois EPA does not identify any provision of the Act or the Illinois Code requiring that a permit application include any particular documentation or explanation in conjunction with a historical operational rate or emissions rate, nor does it even point to even an application form or guidance document suggesting that such documentation or additional explanation be provided.

As this comment suggests that the requested data has been provided by the information in the Application, this comment does not respond to the deficiency addressed by Denial Point 2. This denial point relates to the absence of "supporting (emphasis added) documentation or explanation for the baseline usage of COG utilized in the revised netting analysis." (Draft Denial Letter, December 2023, p. 8.) This comment does not show that the Application contains such supporting information. While the Application does explain that COG was used as fuel in certain Project-affected fuel burning units during the baseline period, as observed in this comment, this does not constitute support for the specific data in the Application for the baseline usages of COG in these units.

Although, the data for baseline usage of COG provided in the Application may be superficially characterized as indistinguishable from the data provided for usage of other fuels, there is a critical difference from that other data. The data provided for baseline usage of BFG and natural gas reflects data originally provided by National Steel. (Application, Appendix C – Emission Calculations, Emissions Calculations Included in the 1995 Construction Permit Application, Table 3-2: Granite City Division of National Steel, Netting Analysis Summary – NOx (orig. 1/16/96)). However National Steel did not provide data for usage of COG. As such, it is reasonable and appropriate for US Steel to provide supporting information or other explanation for how it obtained or developed the data in the Application for usage of COG.[139]

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[138] See, *e.g.*, 35 IAC 201.152, which provides that, "The Agency may adopt procedures that require data and information in addition to and in amplification of the matters specified in the first sentence of this Section, that are reasonably designed to determine compliance with this Chapter and ambient air quality standards, or that set forth the format by which all data and information shall be submitted."). (Footnote 25 of US Steel's Comments of January 2024.)

[139] **For example, was data for the usage of COG available for the individual Project- affected fuel burning units? If not, how was the data for COG usage of individual units or groups of similar units derived from aggregate data for usage of COG or from data for coke production?**

Absent such information, the Application does not provide proof that the baseline emissions of NOx attributable to use of COG provided in the Application should be considered accurate and should properly be relied upon for the purpose of the requested revisions to Permit 95010001.

Finally, as discussed in General Response 1, Section 8A of this Responsiveness Summary, it is not necessary for there to be a provision of the Act or the Illinois Code, or other guidance that specifies the particular information that must be included in an application for an air pollution control construction permit. An application is not shielded from denial because the Illinois EPA did not formally request the applicant to supplement, revise or replace the application to remedy deficiencies in the application. The application must include information that is sufficient to provide proof that the facility or equipment that is the subject of the application will not violate applicable provisions of the Act and the Illinois Code. In this regard, this comment does not even address the provisions of the Act and the Illinois Code that might be violated if a revised permit were issued without information as addressed by this denial point, i.e., Sections 9(a), 9.1(d) and 39(a) of the Act and 35 IAC 201.152 and 201.160, as identified in the Revised Draft Denial Letter. The fact that the second sentence of 35 IAC 201.152[140]

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[140] It is noted that in this comment, the footnote providing the text of 35 IAC 201.152 only provides the second sentence of this rule. This is the sentence that addresses the procedures that the Illinois EPA may adopt to elaborate upon the required contents of a construction permit application. The first sentence of this rule, which provides certain explicit requirements for the content of applications for air pollution control permits, is provided below.

> Section 201.152 Contents of Application for Construction Permit
> An application for a construction permit shall contain, as a minimum, [emphasis added] the following data and information: The nature of the emission unit and air pollution control equipment, including the expected life and deterioration rate; information concerning processes to which the emission unit or air pollution control equipment is related; the quantities and types of raw materials to be used in the emission source or air pollution control equipment; the nature, specific points of emission and quantities of uncontrolled and controlled air contaminant emissions at the source that includes the emission unit or air pollution control equipment; the type, size, efficiency and specifications (including engineering drawings, plans and specifications certified to by a registered Illinois professional engineer) of the proposed emission unit or air pollution control equipment; maps, statistics and other data reasonably sufficient to describe the location of the emission unit or air pollution control equipment. ..

As the first sentence of 35 IAC 201.152 explicitly requires certain information to be provided in an application, it addresses information describing the subject of an application, e.g., the emission units and air pollution control equipment and their emissions. The specific information that might need to be

acknowledges that the Illinois EPA may adopt procedures further specifying the required contents of applications for air pollution control construction permits does not mean that the Illinois EPA must adopt such procedures.[141]

B. NOx Emission Factor for Use of COG in Boilers 11 and 12 (Denial Point 2)

In the draft denial letters, in Attachment 1, the Illinois EPA correctly observes that Table 6-4 in the Application indicates the emission factor used in calculating the amount of NOx formed from combustion of COG gas in the boilers during the pre-project baseline period is based on emissions testing performed at one of the by-product coke oven batteries.

The "basis for the emission factor" indicated in Table 6-4 of the Application is a "scrivener's error," a minor mistake in the Application. This error was pointed out to US Steel's consultant by Illinois EPA staff by telephone in January 2023. The factor is actually based on emission testing performed at Boiler 12, which is one of the boilers whose NOx emissions are the subject of the calculation. This fact was conveyed to Illinois EPA staff by telephone in January 2023.

As indicated by this comment, there is a material mistake in Table 6-4 of the Application. While US Steel may view it to be minor, so as to be able to be characterized as a "scrivener's error," this does not act to alter the Application. In this regard, the deficiency in the Application addressed by this Denial Point is not that the emission factor used to calculate the NOx emissions from the use of COG by 12 boilers at the facility in 1996 is incorrectly shown as being based on emissions testing on the combustion stack of one of the coke oven batteries. The deficiency is that the calculations for NOx emissions of boilers attributable to use of COG cannot be accepted as accurate and relied upon for issuance of the revision to Permit 95010001 requested by the Application. This is because Table 6-4 indicates that these calculations use an emission factor that was based on testing of the

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provided in particular permit applications to show compliance with the applicable substantive requirement in the Illinois Code is not addressed. In this regard, this rule recognizes that the information that is specified is only the minimum information that must be contained in an application.

[141] Even if the Illinois EPA had adopted procedures elaborating on the required contents of applications for air pollution control construction permits, it would be extraordinary for such procedures to address the unique circumstances that are presented with the Project for the use of coke oven gas (COG) at the Granite City Works. The emissions of NOx that are now of concern for use of COG were not addressed in 1996 when Permit 95010001 was initially issued for the Project. The Application now requests that the NSR applicability analysis for the Project for NOx be revised to account for such NOx emissions.

combustion stack of a by-product coke oven battery. The NOx emissions from the combustion of COG at a by-product coke oven battery for heating of the coke ovens, as is measured at the combustion stack of a by-product coke oven battery, cannot be assumed to be similar to those from burning COG in a boiler. This is discussed in the Draft Denial letter (For example, see Footnotes 14 and 15 of the Revised Draft Denial Letter).

In this regard, the telephone conversations between US Steel's consultant and a staff member at the Illinois EPA reviewing the Application, as described in this comment, did not and could not act to change the Application. Moreover, these conversations did not even result in an informal resolution to the basic issue posed by the calculation in the Application for the NOX emissions of boilers from use of COG. This is that the NOx emissions factor used in these calculations did not appear representative. In particular, as discussed in the Denial Letters, the emissions calculations for the boilers use a NOx emission factor of 404 pounds/million cubic feet of COG; the USEPA's Webfire Database provides a much lower factor, 80 pounds/million cubic feet of COG.[142] Absent the submittal of information to resolve this issue, the Application does not provide proof that the baseline emissions of NOx attributable to use of COG provided in the Application should be considered accurate and, accordingly, can properly be relied upon for the purposes of the requested revision to Permit 95010001.

C. Emission Factor for Use of Natural Gas in Ladle Preheaters (Denial Point 3)

In the Draft Denial Letters, Attachment 1, the Illinois EPA correctly observes that, in the calculations presented in the Application in support of the pre-project actual NOx emissions from certain fuel combustion units affected by the Project, US Steel used a single emission factor for all such units, including ladle preheaters. The Illinois EPA then asserts that the Application "does not show that it is appropriate to utilize this emissions factor for ladle preheaters." Illinois EPA does not identify any provision of the Act or the Illinois Code requiring that an application include any particular documentation or justification for the emission factors used to estimate historical emissions, nor does it point to even an application form or guidance document suggesting that such documentation or justification be

[142] Incidentally, the recollection of the Illinois EPA staff member that participated in these telephone calls is that it was stated that US Steel personnel were looking for a copy of the report for the testing that was believed to be the basis of the NOx emission factor that was used for burning COG in boilers. A copy of that report would be provided to the Illinois EPA when it was located. However, a copy of such a test report was not provided to the Illinois EPA.

provided. Notably, for a period of nearly 30 years, the emission factor at issue has been used consistently for all purposes pertaining to the permitting of the Project and has been accepted by Illinois EPA for that purpose.[143] In light of Illinois EPA's repeated acceptance of and reliance on this emission factor for calculating NOx emissions from burning natural gas in ladle preheaters in numerous permitting actions over a period of nearly 30 years, including several permitting actions occurring prior to US Steel's ownership of the facility, US Steel reasonably concluded that no further justification was needed as part of the permit application submitted in March 2020 and supplemented in October 2022.

A lengthy response to this comment is not needed because this comment, by omission, acknowledges that the Application does not show that the emission factor used for ladle preheaters in the calculations for NOx emissions is appropriate. Instead of attempting to show that this factor accurately represents the NOx emissions of these units, the comment instead explains why it was reasonable for US Steel to assume that the NOx emission factor used for these units would be acceptable. However, absent information in the Application providing proof that the NOx emission factor for the ladle preheaters used in the calculations in the Application should be considered representative, those calculation cannot properly be relied upon for the purposes of the requested revision to Permit 95010001.

By way of some brief observations, it is unquestioned that information provided in permit applications must be accurate.[144] In the Application, US Steel elected to revisit the original NSR applicability analyses for the Project. Therefore, the obligation to use appropriate emission factors in the revised analyses in the Application clearly rests with US Steel. This obligation is not met by reference to prior permitting by National Steel. As further discussed in General Response 1, US Steel also cannot avoid this obligation by simply pointing to historic decisions by the Illinois EPA. When acting upon the Application, the Illinois EPA is not required to perpetuate

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[143] *See, e.g.*, "Calculation Sheet" prepared by Jim Ross of Illinois EPA, Dec. 5, 1995 (summarizing Illinois EPA's review of the application submitted by National Steel, which was initially filed with the Illinois EPA on Jan. 3, 1995) at p. 12; application supplement submitted by National Steel Jan. 16, 1996, at p. 3-2; Permit 95010001 as issued Jan. 25, 1996, at Table 4; Permit 95010001 as revised Dec. 17, 2012, at Table 4; Construction Permit 95010001 as revised Dec. 17, 2012, at Table 4 (Footnote 26 of US Steel's Comments of January 2024.)

[144] **This comment does not address the provisions of the Act and the Illinois Code that the Revised Draft Denial identifies as potentially being violated if a revised permit were issued without information as addressed by this denial point, i.e., Sections 9(a), 9.1(d) and 39(a) of the Act and 35 IAC 201.152 and 201.160.**

any past mistakes that may have been made. As explained in the Draft Denial Letters, it is questionable that emission factors developed for boilers like those being addressed accurately represent the NOx emissions of ladle preheaters. Ladle preheaters heat the refractory on the interior surface of ladles by direct heat transfer, rather heating water by indirect heat transfer. The rated heat input capacities of individual ladle preheaters are also lower than the rated heat input capacities of the various boilers.

Finally, as discussed in General Response 1, Section 8A of this Responsiveness Summary, The fact that particular emission factors have been accepted or have not been questioned by the Illinois EPA in past permitting actions does not preclude reexamination of those factors by the Illinois EPA as part of proposed revisions to Permit 95010001. In addition, the fact that particular emissions factors may have previously been accepted by the Illinois EPA during permitting does not show that the Illinois EPA has prescribed the use of such factors on an ongoing basis. Nothing in the cited permits identifies the subject emission factors as being prescribed factors, rather than being emission limits.[145] Nothing in the public comment periods associated with the issuance of a few of these permits indicated that such limits were intended to be prescribed emission factors. Moreover, even if this had been the case, this would not serve to preclude reevaluation of those emissions factors as part of the requested revisions to Permit 95010001.

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[145] As discussed in the Draft Denial Letters, the provisions in Permit 95010001 that are in the form of emission factors (e.g., are in pounds of pollutant emitted per unit of throughput, output or fuel input), are enforceable emission limitations.

By way of further explanation, the emission factor limits currently in Permit 95010001 are addressed in the Draft Denial Letters because the Application requests that this permit be revised to no longer include these limits. Instead, as generally discussed in Footnotes 24 and 31 in the Draft Denial Letters, as necessary to enforceably limit emissions to address nonapplicability of NSR for various pollutants, only the annual emissions of various groups of related Project-affected units would be limited. In the Application, these limitations on annual emissions are referred to as "emission caps." This revision to Permit 95010001 would facilitate resolution of the two appeals of air pollution control permits currently pending with the Illinois Pollution Control Board (PCB 2013-053 and PCB 2013-062).

In addition, for certain Project-affected units, in place of enforceable emission factor limits, the Application requests that the revision to Permit 95010001.prescribe or specify the particular emission factor(s) that US Steel must use on an ongoing basis when showing compliance with the relevant annual emission cap(s). (For example, refer to Comment XII.C and Denial Point 10 as it addresses uncaptured NOx and VOM from the blast furnace cast house, which emissions occur the through the roof monitor on the casthouse.)

D. Emissions from Use of Natural Gas on the Continuous Casting Lines (Denial Point 2)

In the Draft Denial letters, Attachment 1, the Illinois EPA correctly observes that in the calculations in the Application supporting the pre-project actual NOx emissions from units affected by the Project, US Steel indicated there is no NOx formation from the continuous casting operation other than from combustion of natural gas and, because all natural gas consumption in the continuous casting operation is accounted for elsewhere, US Steel did not account for any additional pre-project actual NOx emissions from the continuous casting operation.

Illinois EPA then incorrectly asserts that US Steel's failure to double-count the pre-project actual NOx emissions from the continuous casting operation is "problematic." US Steel's election not to overstate the pre-project actual NOx emissions from emissions units affected by the Project is correct and appropriate, as it best represents the increases in actual emissions with the project, consistent with the requirements of the PSD and NaNSR rules. However, the manner in which the usages of natural gas and associated NOx emissions during the pre-project baseline period was presented in the Application is unclear. This lack of clarity appears to have caused confusion on the part of the Illinois EPA.

The total pre-project baseline actual NOx emissions from natural gas used in certain units affected by the Project is correct. In this regard, this information reflects information provided in Table 3-2 in National Steel's original application. The total natural gas usage by the affected units during the pre-project baseline period is 1,145 million cubic feet (cf) /year, with 57 million cf/year attributable to the continuous casting operations. The total associated NOx emissions attributable to burning natural gas during the baseline period are 175.18 tons/year, including 8.72 tons/year from the continuous casting operations.[146] What was likely confusing is that

[146] The complete information for natural gas usage during the pre-project baseline period, as shown in Table 3-2 of National Steel's application, is provided below. (Table 3-2 in the application supplement submitted by National Steel Jan. 16, 1996, a copy of which is provided in the Application in Appendix B - Emission Calculations.)

Information on Usage of Natural Gas and Associated NOx Emissions, As Extracted from Table 3-2: Granite City Division of National Steel: Netting Analysis Summary - NOx

Unit(s)/Fuel	NOx Emission Factor (lb/mmcf)	Base Year Usage (mmcf)	Actual Emission (T/Y)	Projected Usage (mmcf)	Projected NOx Emissions (T/Y)

National Steel's projection of the total post-project natural gas usage in the affected units, including the continuous casting operations, was the same as the pre-project amount, both being 1,145 million cf/year. In other words, the Project would not entail an increase in natural gas usage from the baseline level.

When issuing Permit 95010001 in 1996, the Illinois EPA set limitations on total post-project natural gas usage (1,145 million cf/year) and total post-project NOx emissions from burning natural gas (175.19 tons/year). (Permit 95010001, issued January 26, 1996, Condition 21 and Table 4). These limits match the information shown in Table 3-2 of National Steel's application, which did address natural gas usage by the continuous casting operations. In Condition 21 and Table 4 of this permit, the Illinois EPA also listed the fuel burning units to which these limitations applied. Almost certainly inadvertently, the Illinois EPA omitted the continuous casting operations from the listings of units to which these limitations applied. For the Project, it is undisputed that Illinois EPA accepted and relied upon both the baseline information and the projections presented in Table 3-2 of National Steel's application related to usage of natural gas and associated emissions.[17]

In the prior application submitted in March 2020 and in the Application, the total natural gas usage by affected units during the pre-project baseline period is shown as 1,145 million cf/year. However, consistent with the Illinois EPA's error in drafting Permit 95010001, US Steel omitted the continuous casting operations from the list of units burning natural gas and contributing to the total associated NOx emission from burning natural gas with project. Nevertheless, as explained above, the contribution of the continuous casting operations to NOx emissions from natural gas combustion were actually accounted for, both in pre-project baseline emissions and in

Boiler House 1 (Blrs 1-10) - NG	306	261	55.23	included below	
Boiler #11 - NG	306	226	34.58	included below	
Boiler #12 - NG	306	218	33.35	included below	
BOF Preheaters/Dryers - NG	306	283	43.30	included below	
Continuous Caster #1 & #2 - NG	306	57	8.72	included below	
Totals		1,145	175.18*	1,145	175.19*

* These numbers appear as not being the same due to the difference in the rounding of results, with baseline emissions being the sum of separate calculations for emissions and the project emissions being the result of a single calculation for emissions.

[17] The total NOx emissions increase from the Project, prior to contemporaneous emissions decreases, as addressed by Permit 95010001 in 1996, is also the same as shown by National Steel in Table 3-2, i.e., 238.8 tons/year. (Permit 95010001, issued January 26, 1996, Condition 42 and Table 6.)

the post project emissions.

This comment does not actually respond to the relevant deficiency in the Application identified by the Illinois EPA in the Draft Denial Letters. Moreover, it also identifies an error in the Application as the Application perpetuates an error in Permit 95010001 on the units that are identified as being subject to certain limitations set by this permit. That is, the Application continues to omit the continuous casting operations from the limitations set by this permit for the usage of natural gas and associated emissions.

Specifically with regard to Denial Point 2 as it addresses the NOx emissions of the continuous casting, the Illinois EPA did not claim that the Application's "failure to double-count" certain NOx emissions was problematic. Indeed, the Illinois EPA did not express concern about historic double-counting and, as explained by this comment, the original approach to baseline usage of natural gas and baseline NOx emissions were not inflated due to double-counting. Rather, the Denial Letters indicated that the corrections proposed by the Application were problematic for several reasons, as they did not fully address the issues associated with accounting in the Application for the NOx emissions of the continuous casting operations. The first issue is that the Application does not appear to address NOx emissions from the natural gas-fired torches used in the slab cutting and slab ripping processes that take place as part of continuous casting or otherwise show that these processes do not emit NOx. (For example, are there any such emissions? Does Permit 95010001 actually account for such emissions? Should the listing of units whose usage of natural gas is limited be broadly stated so as to simply apply to the "continuous casting operations"?) Second, the Application does not show that the NOx emissions factor used to calculate NOx emissions from burning of natural gas in the continuous casting operations, 306 pounds/million cf, which is proposed to be used for other units burning natural gas is also appropriate for use for the caster molds. Third, the Application does not identify the caster molds as "Project-affected fuel burning units," with the blast furnace stoves, boilers, etc., in the various listings of Project-affected fuel burning units in the Application (e.g., Application, Table 6-5).

E. Post-Project NOx Emissions (Denial Point 3)

In the draft denial letters, Attachment 1, the Illinois EPA asserts that the Application is deficient because it does not include supporting information related to the maximum future NOx emissions of 706 tons per year from the certain fuel burning units affected by the Increase Project, such as "the maximum annual amounts of fuels burned in these units" and "the emission factors used to calculate annual emissions." As discussed in detail in other comments (US Steel Comment

XII.J), US Steel included all of this information in the permit application submitted in March 2020 but omitted it from the Application based on Illinois EPA's informal comments regarding the initial submittal. Notably, the Application does not request a new construction permit; rather, it requests revision of an existing permit, which existing permit has since 1999 limited the NOx emissions from the Project-affected fuel burning units to 706 tons per year. Because the Application requests no change in the maximum NOx emissions from the fuel burning units, US Steel reasonably assumed that no additional information was needed with respect to this calculation.

Of course, in accordance with 35 IAC 201.152, the Illinois EPA retains authority to request additional information in conjunction with a construction permit application, but that was not done here.

This comment does not show that the Application should not be denied. As a preliminary matter, the claim made in this comment is false. The information that is lacking in the Application, which is the reason for this denial point, was not provided in the earlier application received by the Illinois EPA in March 2020. In fact, in that application, the proposed revised NOx emissions cap from "certain fuel burning units" was 632.5 tons/year (March 2020 application, p. 8-7, Table 8-8). As such, that application would not have provided supporting information for a proposed value for post-project NOx emissions of these units of 706 tons/year. The value of 706 tons/year for the proposed revised NOx emissions cap for these units first appeared in the Application, i.e., the current application, as submitted in October 2022. (Application, pp. 6-6 and 6-7, Tables 6-6 and 6-7.) It is perhaps noteworthy that Table 8-8 in the March 2020 application also shows an increase in the NOx emissions of these units with the Project of 137.4 tons/year (the difference between the revised baseline emissions of 495.2 tons/year and proposed revised emission cap of 632.5 tons/year as provided in the application).

More generally, as related to the revised NSR applicability analysis for NOx in the Application, this analysis cannot simply rely on certain elements of a previous analysis without showing that those elements are still correct and appropriate. In the Application, US Steel provides a revised NSR applicability analysis for NOx with the objective of showing the Project would still not be a major modification for NOx for purpose of NSR with the requested increases in the permitted NOx emissions of the blast furnace casthouse and the BOFs. The revised NSR analysis addresses higher NOx emissions from the casthouse and BOFs with the Project. It also accounts for NOx emissions from Project-affected fuel burning units from use of COG, which was not done in previous NSR analyses. The baseline NOx emissions of these fuel burning units in the revised NSR analysis are now higher than in the original NSR analysis. To the extent that there are errors that overstate the

baseline NOx emissions of these units, as would be perpetuated by using a value of 706 tons/year for emissions of the Project, the requested revised permit would potentially allow circumvention of the substantive requirements of NSR for a major modification for +NOx. Finally, as part of the Application, US Steel also requests that the current emission factor limits for Project-affected fuel burning units be eliminated and their NOx emissions be addressed with, at most, annual limitations for their NOx emissions. This is more than enough to support the reopening of the entire revised NSR analysis, with explanation and justification for this analysis by US Steel in the Application and opportunity for scrutiny by the Illinois EPA. In summary, the fact that since 1999, Permit 95010001 has suggested that it allows NOx emissions from the Project-affected fuel burning units of 706 tons/year is not sufficient support to justify use of this value in the revised NSR applicability analysis for NOx.[148] In addition, in light of the above, it is questionable that the Illinois EPA ever suggested in informal discussions on the March 2020 application that support for information in the revised NSR applicability analyses should not be included in the application for revisions to Permit 95010001.

Finally, as already discussed and as addressed in General Response 1, 35 IAC 201.152 does not act to block denial of a permit application if the application does not include information providing proof of compliance with relevant requirements. As this rule provides that the Illinois EPA may adopt procedures elaborating on the required contents of air pollution control permit applications, it does not require that the Illinois EPA adopt such procedures.

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[148] In fact, for Project-affected fuel burning units, Condition 22 and Table 4 of Operating Permit 95010001, as issued in 1999, specifically limits NOx emissions from use of natural gas to 205.94 tons/year, use of BFG to 488.48 tons/year, and use of fuel oil to 10.04 tons/year. The sum of these individual limits is 704.46 tons/year. (These limits were not altered when Construction Permit 95010001 was revised in December 2012.) The value of 706 tons/year, which is in Table 5 of these permits, is more than the sum of the fuel-specific limitations. As such, it is unclear that Permit 95010001 has in practice ever allowed NOx emissions of 706 tons/year from the Project-affected fuel burning units, even assuming that this overall limit was not intended to also limit NOx emissions from use of COG in these units.* Thus, the Application actually proposes a new value for the overall permitted NOx emissions of the Project-affected fuel burning units with the Project.

* Table 4 of Permit 95010001 has never included specific limits for the emissions of NOx from burning COG in the affected units. The applications that were the basis of these permits did not quantitatively address those NOx emissions. These NOx emissions were first quantified and explicitly addressed in the revised analysis of NSR applicability for NOx in the Application.

X. THERE ARE NOT QUANTIFIABLE FUGITIVE EMISSIONS OF NOx OR VOM FROM THE BOFs (DENIAL POINT 4 – NOx and VOM[149])

In the draft denial letter, Attachment 1, the Illinois EPA states that the Application "does not address uncaptured emissions" of NOx and VOM from the BOFs and that the emissions calculations presented in the Application reflect an assumption "that all emissions of these pollutants from the BOFs are now captured" and routed to atmosphere through the electrostatic precipitator or baghouse. Illinois EPA also acknowledges that such uncaptured emissions, if they exist, are not significant and that, if estimated quantities of such uncaptured emissions were added to the calculations supporting the PSD/NaNSR non-applicability demonstrations, would yield smaller (rather than greater) emissions increases.

With one minor exception, Illinois EPA's general statements characterizing the emissions increase calculations presented in the Application, as summarized above, are correct. The minor exception is this: The application does not reflect an assumption that there are zero uncaptured emissions of NOx and VOM from the BOFs but rather reflects the conclusion that, if there are any such uncaptured emissions, those emissions are fugitive emissions[150] and are not quantifiable. Fugitive emissions are counted for purposes of PSD and NaNSR applicability determinations only to the extent that such emissions are quantifiable.[151] The emissions capture systems serving the

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[149] In this comment, US Steel only responded to Denial Point 4 as it addressed the deficiency in the Application that emissions of NOx and VOM that occurred through the roof monitor on the BOF Shop. It did not respond to the denial point as it also addressed uncaptured emissions of carbon monoxide (CO) through the roof monitor. As such, this comment does not show that the Application should not be denied based on Denial Point 4, as has now occurred, because it did not address uncaptured emissions of CO, which occur through the roof monitor.

In its Comment VI, US Steel does acknowledge the fact that the Application does not address the uncaptured CO emissions of the blast furnace casthouse in the revised CO air quality analysis for the Project provided in the Application. This analysis reflects a greater increase in CO emissions from the Project, as described by the Application, compared to the original quantification of the emissions of the Project by National Steel, which has been found to understate the CO emissions increase from the Project. As explained in its response to US Steel's Comment VI, this comment also does not show that the fact that the Application does not consider uncaptured CO emissions in the revised CO air quality analysis in the Application is not a reason why the Application should not be denied.

[150] Fugitive emissions are "those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening." 40 CFR 52.21(b)(20). (Footnote 33 in US Steel's Comments of January 2024.)

[151] See, *e.g.*, 40 CFR 52.21(i)(4)(vii)(exempting a project from PSD permitting requirements if it would be major "only if fugitive emissions, to the extent

BOFs satisfy the stringent requirements of 40 CFR Part 63 Subpart FFFFF, which reflects USEPA's determination of the maximum degree of reduction in emissions that is achievable for existing BOFs. (Section 112(d)(2) of the federal Clean Act (42 U.S.C. 7412(d)(2)).) These capture systems reflect the state of the art and that, to the extent there are any uncaptured emissions of NOX or VOM, those emissions could not reasonably be captured or controlled and thus are fugitive emissions.

Although Illinois EPA presents speculation regarding possible fugitive emissions of NOX and VOM from the BOFs, that speculation is not a sufficient basis to determine that such emissions exist and are quantifiable. Neither US Steel nor Illinois EPA has not identified any evidence of such quantifiable emissions in the literature or in the permitting records of other iron and steel mills.
The fact that there are fugitive particulate emissions from the BOFs is not indicative of the formation of NOX or VOM emissions. The capture system for the baghouse for the BOFs is a large ventilation system that generally evacuates the space around the BOF vessels during charging, refining, and tapping. The primary mechanism for formation of particulate during charging and tapping is the oxidation of molten metal. This formation mechanism cannot be expected to result in the formation of NOx or VOM.

This comment does not show that there is not a deficiency in the Application as addressed by this denial point, much less meaningfully challenge this denial point. Rather, this comment reflects a misapplication of the term "fugitive emissions," as defined in the NSR rules. The deficiency in the Application addressed in this denial point involves "uncaptured emissions" from the BOF, not fugitive emissions. Even if the capture systems serving the control systems of the BOFs are state-of-the art, this is irrelevant.[152] USEPA's commentary in

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quantifiable, are considered" and it would occur at a source that is not in a listed source category); *see, also,* 45 FR 52676 at 52692 (Aug. 7, 1980)(USEPA explains that it is declining to extend the exemption at § 52.21(i)(4)(vii) to the listed source categories, such as iron and steel mills, but stated, "EPA emphasizes, however, that fugitive emissions from a source in one of the listed categories will only be included in threshold calculations 'to the extent quantifiable'"). (Footnote 23 in US Steels Comments of January 2024.)

[152] **Whether the capture systems in the add-on particulate control systems serving the BOFs are state-of-the-art is also arguable. A determination by USEPA as to what is appropriate for capture of emissions as a matter of rule in the context of a NESHAP rulemaking should not be assumed to be transferable to determinations for what should be considered reasonable for the possibility of enclosure and capture of emissions for purposes of the NSR definition of fugitive emissions. In addition, if the BOF shop at the Granite City Works were new for purposes of the NESHAP, 40 CFR 63.7790(a) would set a more stringent limit for the opacity of emissions from the roof monitor, i.e., 10 percent**

rulemakings concerning fugitive emissions, as cited in this comment, is not applicable. Rather the NOx and VOM emissions addressed in this denial point are governed by the fundamental principle that air pollution control permit applications must accurately and reasonably reflect or address the emissions of the units for which a permit is requested.

By way of explanation, the terms "uncaptured emissions" and "fugitive emissions" are not synonymous. Uncaptured emissions are the emissions of unit(s), which although served by control system(s), do not pass through those system(s). In other words, uncaptured emissions are the emissions that go directly to the atmosphere bypassing the control system(s). Uncaptured emissions, as is the case for uncaptured emissions of the BOFs, are not necessarily fugitive emissions. Uncaptured emissions may still enter the atmosphere through a stack, vent or other functionally equivalent opening, as occur for the BOFs as their uncaptured emissions enter the atmosphere through the roof monitor on the building housing the BOF shop. In this regard, this comment does not explain why the NOx and VOM emissions that are addressed by this denial point should be considered fugitive emissions even though they enter the atmosphere through a roof monitor. Accordingly, as this comment is based on the NOx and VOM emissions at issue being "fugitive emissions" rather than "uncaptured emissions," the comment is not responsive to this denial point.

The claim that this denial point is insufficient because the Illinois EPA does not show that there are "fugitive emissions" is baseless. First, US Steel must address uncaptured emissions of the BOFs in its permit application as revisions to Permit 95010001 are requested to increase the permitted emissions of the BOFs such the Project would become a major modification for NOx for both PSD and NaNSR. Under the NSR programs, as the Granite City Works are an iron and steel mill, USEPA has explained that US Steel would, at most, only be excused from addressing fugitive emissions in threshold calculations for NSR applicability to the extent that those emissions are not quantifiable. However, US Steel has not made a showing that the emissions of NOx and VOM through the roof monitor serving the BOFs are not quantifiable. Estimates for the amounts of these emissions can be made from: 1) the results of testing of the captured emissions of NOx and VOM, which occur through the stacks of the electrostatic precipitator (ESP) and baghouse that control particulate emissions of the BOFs, and 2) engineering design and calculations for the capture efficiency achieved by these control systems for the emissions of the BOFs. This is what

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opacity on a 3-minute average, except for one period during each steel production cycle with opacity greater than 10 percent but less than 20 percent. As this BOF shop is considered an existing shop, the NESHAP limits the opacity from its roof monitor to only 20 percent opacity on a 3-minute average.

was done for the uncaptured particulate emissions of the BOFs, which also are not directly measured.

This claim is also flawed because it downplays the fact that the existence of uncaptured emissions of NOx and VOM from the BOFs was overlooked during the original permitting of the Project.[153] The representation in this comment about the origins of the NOx and VOM emissions specifically addresses the primary mechanism for formation of particulate during charging and tapping of BOFs, then claiming, without any support, that this mechanism cannot be expected to result in the formation of NOx and VOM. This does not address mechanisms that might directly result in the formation of NOx and VOM during charging and tapping of the BOFs. For example, during charging are NOx and VOM formed by the oxidation of nonmetallic material present in the scrap metal, such as paint or plastic? Since the BOF shop is equipped with a roof monitor and is not a closed building, to what extent do uncaptured emissions of NOx and VOM from the BOFs consist of a portion of the NOx and VOM formed in the BOFs vessels during refining that simply eludes capture by both the ESP and baghouse control systems? Even if a search of the literature or permitting records for other steel mills indicates that uncaptured emissions of NOx and VOM have not been previously addressed, this does not show that such emissions do not exist. The traditional focus for control of emissions of BOFs has been on their particulate emissions, which are amenable to add-on control.

Finally, this claim is flawed because it does not consider the empirical evidence indicating the existence of uncaptured emission of NOx and VOM from the BOFs, as discussed in Denial Point 4 in the Draft Denial Letters. The emission testing conducted for the new baghouse control system for the BOFs measured emissions of NOx and VOM in the

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[153] As cited in Denial Point 4, with respect to the NOx emissions of the BOFs, the Application explains the following. (A similar statement is made for VOM emissions.) The Application does not go on to address whether the Application fully addresses the uncaptured emissions of NOx and VOM of the BOFs that were overlooked in 1996.

> At the time of the 1999 Application, the BOF Shop did not include a baghouse to capture secondary emissions. Secondary emissions were released to the atmosphere through the BOF Shop roof monitor. No information was available at that time about the NOx emissions from the BOF Shop roof monitor. Since then, the BOF Shop includes a capture system for secondary emissions that are routed to a baghouse. NOx emission testing for the BOF Shop baghouse, completed in 2019-2020 timeframe, shows an average NOx rate of 0.0075 lb/ton for the BOF Shop Baghouse stack, USS Granite City added the BOF Shop secondary NOx emission baseline based on the result of the stack test for the BOF Shop Baghouse stack.
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> Application, p. 6-4, Section 6.2.6 "BOF Baghouse - Secondary Emissions (New)".

exhaust from the baghouse. As this baghouse system was installed to enhance control of particulate emissions from charging and tapping of the BOFs, a portion of these measured NOx and VOM emissions should be attributed to the improvement to the capture of emissions from charging and tapping of the BOFs provided by this new system. However, with respect to emissions of particulate, the Application does not suggest that 100 percent capture of the particulate emissions of the BOFs is now achieved, instead still accounting for the presence of uncaptured particulate emissions through the roof monitor on the BOF shop. This indicates that there are also still uncaptured emissions of NOx and VOM from the BOFs even with the improvement in capture of emissions provided by the new baghouse system.

XI. THE APPLICATION INCLUDES ALL REQUIRED INFORMATION PERTAINING TO PRE- PROJECT (BASELINE) PARTICULATE MATTER EMISSIONS CALCULATIONS (DENIAL POINT 11 – DEFICIENCY WITH REGARD TO BASELINE EMISSIONS)

In the draft denial letter, Attachment 1, the Illinois EPA asserts that the Application is deficient for the following reason:

> With regard to baseline particulate emissions, the determination of baseline emissions from handling of coke, iron pellets and limestone provided in the revised netting analysis cannot be independently confirmed. In this regard, the 2022 application does not provide needed supporting information for the "corrected" determinations of baseline particulate emissions of these operations as it is not accompanied by detailed calculations for the emissions from handling each material.

The assertion regarding a deficiency in the application is, without merit. The Application includes all information required by the applicable permitting rules. The Illinois EPA's characterization of these pre-project (baseline) emission rates as "corrected" is erroneous. These are the values presented in the original permit application submitted by National Steel and accepted by Illinois EPA when issuing Permit 95010001 in 1996.[154] US Steel made no change to these values and is not in possession of information that would allow such change. In light of Illinois EPA's acceptance of and reliance on these values during that prior permitting action, which preceded US Steel's ownership of the facility, US Steel reasonably concluded that

[154] The Application indicates that this information is provided in Table F-3 of National Steel's application, "Granite City Division of National Steel: Base Case PM10 Emissions and Contemporaneous Emissions Reductions – Material Handling Table." A copy of Table F-3 is included in the Application in Appendix B, "Emissions Calculations."

no further justification was needed as part of the present permit application.

The Illinois EPA does not identify any provision of the Act or the Illinois Code requiring that a permit application include any particular supporting information, nor does the Illinois EPA point to even an application form or guidance document suggesting that such documentation or additional explanation be provided. Of course, Illinois EPA retains authority to request additional information in conjunction with a construction permit application pursuant to 35 IAC 201.152, but that was not done here.

This comment does not show that there is not a deficiency in the Application and the Application should not be denied. As explained in this denial point, the deficiency in the Application is that the summary information for PM10 emissions in National Steel's Table F-3 is not sufficient. This table only provides information for emissions on an annual basis. It does not include calculations and background information for how annual emissions from handling the various material were determined, including the specific emission units that were addressed. Table F-3 also only provides information for the PM_{10} emissions of these operations, not the PM emissions. However, in the Application, like current Permit 95010001, baseline PM emissions are unrealistically assumed to be no more than the PM_{10} emissions. As such, it is reasonable for concerns to exist about the nature of and the accuracy of the information for baseline particulate emissions from handling of coke, pellets, and limestone, as represented in the Application in Table 5-5, "Pre-project Actual Emissions and Summary of Proposed Changes to Pre-Project PM Emissions Factors for Affected Units" and Table 5-6, "Pre-project Actual Emissions and Summary of Proposed Changes to Pre-Project PM_{10} Emissions Factors for Affected Units,", as they rely on Table F-3 from National Steel's application.[155] The presence of errors in this

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[155] It is also noteworthy that Permit 95010001, Table 5, "Limits on Emissions from Major Processes Activities," indicates that the PM and PM_{10} emissions of the subject material handling operations should both be no more than 2.0 tons/year. In fact, the Application requests that revised Permit 95010001 provide for more than 2.0 tons/year of PM and PM_{10} emissions from the subject operations. This is an aspect of revised NSR applicability analyses for the Project for PM and PM_{10}, as summarized in the tables in Appendix B of the Application, "USS Granite City - 1996 Production Increase Project: Revised PM PSD Net Emissions Increase Analysis," and "USS Granite City - 1996 Production Increase Project: Revised PM PSD Net Emissions Increase Analysis." As the Application requests a revision to a provision in Permit 95010001 that currently addresses the emissions of the subject operations, it is essential that the Application include supporting information for the baseline emissions of the subject operations as now being represented in the Application.

information would have become apparent and likely avoided if US Steel had provided detailed calculations in the Application for the baseline emissions of these operations.[156] In summary, this comment did not show that the Application should not be denied based on Denial Point 11 as it addresses a deficiency in the Application with regard to the information that is provided for the baseline emissions of these material handling operations.

Finally, as discussed in General Response 1, Section 8A of this Responsiveness Summary, it is not necessary for there to be a provision of the Act or the Illinois Code, or other guidance that specifies the particular information that must be included in an application for an air pollution control construction permit. The application must include information that is sufficient to provide proof that the facility or equipment that is the subject of the application will not violate applicable provisions of the Act and the Illinois Code. The Illinois EPA is also not required to request information from a permit applicant to address deficiencies in the submitted application before proceeding to deny the application.

XII. THE APPLICATION INCLUDES ALL REQUIRED INFORMATION RELATING TO POST- PROJECT ACTUAL EMISSIONS OF PM, PM_{10}, NOX, AND VOM AND TO ENFORCEABLE LIMITATIONS ON POTENTIAL EMISSIONS OF THESE POLLUTANTS (VARIOUS DENIAL POINTS)

A. It Is Feasible to Establish Enforceable Emission Caps for Groups of Emissions Units and Emission Points as Proposed in the Application (Denial Point 6)

As correctly observed by the Illinois EPA in the draft denial letter, Attachment 1, the Application proposes that PM, PM_{10}, NOz and VOM emissions be subject to annual emission caps covering groups of related emissions units and emission points. For the blast furnace operations and the BOF shop, the proposed groupings include the principal emission points and lesser emission units. For example, for particulate, the grouping would include the casthouse (the main baghouse, the iron spout baghouse and the roof monitor), and charging of the blast furnace and the slag pits. The Application also acknowledges that these emission caps must be made enforceable as a

[156] The issue addressed by Denial Point 11 relative to baseline emissions was raised in the informal discussions between US Steel and the Illinois EPA on the March 2020 application. US Steel acknowledged that the baseline emissions of the subject operations should be greater. US Steel prepared its own calculations of emissions for these operations, which among other things, showed that their PM emissions were more than the PM_{10} emissions.

practical matter as they would serve as synthetic minor limitations (See discussion of synthetic minor limitations in US Steel's Comments, Section VIII.B.)
In the Draft Denial Letter, the lIllinois EPA explains that there may be alternative groupings of emissions units and emission points that could be addressed by enforceable emission caps or other limitations:

> … It would be reasonable and appropriate for both the annual emissions of the casthouse and the annual emissions of the two basic oxygen furnaces to be directly limited separately from the emissions of any other units. …
>
> Revised Denial Letter, Attachment 1, p. 28
>
> …
>
> … Alternatively, limits specifically for the emissions of the casthouse for the blast furnaces and the basic oxygen furnaces, i.e., the principal units at the facility for iron and steel production, could be accompanied by group limits for the overall emissions of these principal units and the other, "non-principal" units in these areas of the facility. For example, limits could be set for both emissions of the casthouse and for the emissions of the casthouse, charging of the blast furnaces, and the slag pits. …
>
> Revised Denial Letter, Attachment 1, p. 29, Footnote 33.

US Steel generally agrees that there are potentially suitable groupings other than those proposed in the Application and that the approach suggested by Illinois EPA is likely permissible under the applicable permitting rules. However, it is unclear whether Illinois EPA's discussion of other potentially suitable groupings of other emissions units and emission points is intended to explain Illinois EPA's proposed denial of the Application. Notably, Illinois EPA has not claimed that the groupings and approaches proposed by Illinois EPA would result in limitations that are not enforceable as a practical matter or that are otherwise impermissible under the applicable rules. If Illinois EPA's discussion of other potentially suitable groupings of other emissions units and emission points is intended to provide a reason for denial of the Application, this is not a valid basis for such denial. It is the responsibility of Illinois EPA to draft a permit with conditions it judges to be suitable and appropriate. A permit applicant has no obligation to reflect in the application a correct guess as to how the permitting authority will exercise its judgment regarding these matters.

As related to groupings of units addressed by emission caps, the denial of the Application is based on the Illinois EPA's determination that

the group limits proposed in the Application are not acceptable as they would eliminate limitations that actually apply only to the blast furnace casthouse and the BOFs. As this comment explains, "It is the responsibility of the Illinois EPA to draft permits with conditions it judges to be suitable and appropriate." In the Illinois EPA's judgment, the groupings of units that the Application proposes for the emission limitations that would be established in the requested revised permit are not appropriate.[157]

This constitutes a valid reason for the Illinois the EPA to deny the Application. As an initial matter, it would be irresponsible for the Illinois EPA to have omitted this point from the Denial Letter. US Steel should not become aware of this issue only when it is provided with a working draft of a revised permit, after it has remedied the deficiencies in the Application that are identified in the Denial Letter.[158] Then, it is inherent in this denial point that the Application is deficient as related to the groupings of units that it proposes. In this regard, this comment overlooks US Steel's role in providing support in the Application for the groupings of units that are proposed. Such support is essential because the Application requests that Permit 95010001 be revised to set limitations that apply to groups of units. This is a fundamental change to the emissions limitation set in Permit 95010001, which for decades since it was issued in 1996, have limited the emissions of individual units, and, for the casthouse and BOFs separately addressed the emissions of these units from different

[157] The Illinois EPA's discussion In the Draft Denial Letters of alternative, potentially acceptable groupings of emission units, other than the grouping proposed in the Application, was not provided to explain the reason for the proposed denial of the Application. Rather, it was provided to convey the Illinois EPA's willingness, at least on a preliminary basis, to pursue group limits as the Illinois EPA had found that the use of group limits to limit potential emissions did not appear to be precluded by applicable rules and USEPA policy. This discussion also served to alert US Steel, USEPA and other interested parties to this fact.

[158] During informal discussions before the Application was submitted, the Illinois EPA's probable position on the grouping of units for the revised limitations planned to be proposed by the Application was conveyed to US Steel.* The Illinois EPA also explained that it was willing to consider "nested" group limits, i.e., limitations for the casthouse and the BOFs by themselves and limitations that applied to each these units and, respectively, the associated iron or steel making operations. However, the Application did not address nested limits, either by altering its proposal for the group limits for the casthouse and the BOFs or, alternatively, providing further support for grouping of limits that was proposed.

* In light of these discussions, inclusion of Denial Point 6 in the Denial Letter is also reasonable as it officially informs US Steel of the Illinois EPA's position on the groupings of units for the revised limitations proposed in the Application.

emission points.[159] Indeed, in the Application, US Steel does address why it believes that the proposed groupings of units should be considered acceptable. However, in this comment, US Steel does not more fully explain why the groupings of units that are proposed in the Application should be considered permissible or appropriate notwithstanding the position taken by the Illinois EPA in Denial Point 6 in the Draft Denial Letters. In particular, this comment does not attempt to refute the Illinois EPA's finding, as provided in Denial Point 6 of the Draft Denial Letters, that the three permit actions cited as precedents for group limits as proposed in the Application do not address the circumstances that exist for the Granite City Works and the Project.[160] As such, they do not support establishment of group limits, as proposed by the Application, that would eliminate individual emission limitations for the blast furnace cast house and the BOFs.

B. Particulate Emissions Associated with a Facility Configuration No Longer Authorized Are Immaterial to the "Source Obligation" Demonstration (Denial Point 11 - Deficiency in Information Provided for Emissions from Handling of Coke, Iron Pellets and Limestone with the Project)

In the draft denial letter, Attachment 1, with regard to the particulate emissions from handling of coke, iron pellets and limestone with the Project (post-project emissions), the Illinois EPA correctly observes that the Application does not include supporting information for the emissions from the handling of coal and coke at the by-product coke oven batteries that were permanently shut down in

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[159] For the casthouse and the BOFs, the Application also proposes that limitations in Permit 95010001 for the emissions from individual emission points, rather than for the total emissions of these units, be eliminated. (While not explicitly stated, this would be a result of the proposed emission caps.) The Illinois EPA does not find this to be unacceptable and it is not an element of Denial Point 6. However, it is recognized that the elimination of limitations for the separate emission points from a unit could affect the compliance provisions that are developed for ongoing quantification of the overall emissions of the unit. In particular, to the extent that the provisions for quantification of the uncaptured emissions of a unit would act to understate those emissions, the provisions would act to allow more captured emissions from the unit, which emissions could actually be verified by testing.

* The treatment of the two BOFs as a single unit for purposes of permitting is appropriate. Both the BOFs share common control systems and the uncaptured emissions of BOFs occur through the same roof monitor.

[160] In the Application, Section 3, pp. 3-1 thru 3-3. US Steel points to three permit actions that occurred outside of Illinois as support for group limits as proposed by the Application. These permit actions involved a permit issued to Shell Offshore, Inc., by USEPA Region 10; a permit issued to Tucson Electric Power by the Department of Environmental Quality for Pima County, Arizona; and a permit issued to Pencor-Masada Oxynol, LLC, by the New York Department of Environmental Conservation.

2015. As the Illinois EPA asserts that this omission represents a deficiency in the Application because these emissions should be included in the total post-project actual emissions quantity as used in determining whether NSR permitting requirements should apply, this assertion is without merit. Although this information may be relevant to an evaluation of whether the Project as authorized by Illinois EPA and as implemented by National Steel prior to US Steel's ownership was a major modification subject to the substantive requirements of the NSR programs, it is not relevant to the "source obligation" analysis and demonstration that are required here. As discussed in US Steel's Comment VIII.B, these analyses are prospective, not retrospective; there is no consideration of facts as they may have existed at some prior point in time and no "mixing" of facts from different points in time.

This comment does not show that the Application should not be denied for the reason identified in Denial Point 11 as this denial point addresses the absence of supporting information for "Project Emissions."[161] First, this comment only directly addresses whether supporting information is provided in the Application for the particulate emissions from handling of coal and coke. However, this denial point also observed that the Application did not include supporting information for the Project emissions from handling of iron pellets and limestone, as well as from handling of coke.[162] As such, this comment does not show that there is not a deficiency in the Application as it does include supporting information for project emissions of particulate from handling iron pellets and limestone. These emissions clearly have not been eliminated with the shutdown of the two by-product coke oven batteries in 2015 as iron pellets and limestone are raw materials for the blast furnaces. In this light, the Application should have included detailed emissions calculations to delineate which materials (i.e., coke, coal, iron pellets, and/or limestone) were being addressed by the representation made in the Application for the Project emissions from handling of these materials.

With respect to lack of supporting information for Project emissions of particulate from handling of coke, this comment claims that it is appropriate for the Application to not have even addressed these emissions. The comment claims that because the two by-product coke oven batteries at the facility were permanently shut down in 2015, the Project emissions from handling coke do not have to be

[161] US Steel addresses Denial Point 11 as it concerns baseline emissions in Comment XI, as already addressed earlier in this Responsiveness Summary.
[162] Although emissions from handling of coal are mentioned in this comment, this denial point does not actually address emissions from handling coal.

considered when determining post-project emissions.[163] In particular, as previously discussed in US Steel's Comment VIII.B, when reevaluating applicability of NSR when relaxation of permit limitation(s) for a project are requested, the revised NSR applicability analysis does not have to consider what should have been permitted if the emissions of a project had previously been correctly quantified when the subject limitations were established. However, as explained in detail by the Illinois EPA in its response to that comment, in a situation like that of the Project, the emissions of units that have been shutdown subsequent to a project must still be considered when reevaluating applicability of NSR with the relaxation of permit limitations or the increases in permitted emissions that are being sought for the project.[164]

Moreover, the Application does request a relaxation or an increase in the emissions for which the material handling operations for coke, iron pellets and limestone are permitted. As already discussed, the Application indicates that the emissions of PM and PM10 of these operations with the Project should now both be 17.2 tons/year, rather than the maximum emissions of 2 tons/year from these operations, as currently indicated in Permit 95010001, Table 5, Limits of Emissions of Major Processes and Activities. Notwithstanding various general representations made in the Application,[165] the Application does not

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[163] This claim is actually flawed as it presumes that the shutdown of the by-product coke oven batteries eliminated all handling of coke as addressed by Permit 95010001. However, coke continues to be a raw material for the blast furnaces and continues to be handled at the facility.

[164] Based on the detailed information for the revised PSD net emissions increase analyses for PM and PM_{10} in Appendix B of the Application, US Steel may have actually included emissions from handling coke in the information provided in the Application for the Project emissions of the material handling operations for coke, iron pellets and limestone, contrary to what is claimed by this comment. In these presentations for the net changes in emissions with the revised NSR applicability analyses for the Project, the baseline emissions and the future or project emissions of these material handling operations both for PM and for PM_{10} are the same, all being 17.2 tons/year. The emissions with the Project are not lower than the baseline emissions.

[165] The actual request for this relaxation in Permit 95010001 is generally discussed in the Application, Section 5.3, "Post-Project PM and PM_{10} Emissions Limitations."

> A comparison of the PM and PM_{10} emissions caps from Table 5 of Construction Permit No. 950100001 and the proposed revisions to these emissions caps is provided in Table 5-8 [PM and PM_{10} Emissions Caps]. USS Granite City is proposing only minor changes to these emissions limitations as part of this permit application. (The changes are primarily attributable to the redistribution of emission caps, including establishment of a separate emissions cap for certain material handling operations [the material handling operations for coke, iron pellets and limestone addressed in this

explain why this revision to Permit 95010001 is requested. For example, the Application, Table 5-8, "PM and PM_{10} Emissions Caps," when addressing the current "Emissions Caps" from Permit 9505010001, simply indicates that for Material Handling Operations, such emission caps are "n/a" in Permit 95010001. It then indicates that the Proposed Revised Emissions Caps for Material Handling Operations are 30 and 19 tons/year for PM and PM_{10}.[166, 167] Only in the detailed presentations of the

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response and the material handling operations currently addressed with blast furnace operations, the BOF shop and continuous casting operations.)

The proposed revisions to post-project PM and PM_{10} emissions caps reflect three categories of changes: corrections of certain emission factors used to calculate both pre-project and post-project emissions as shown in Table 5-5 and Table 5-6 herein;[Footnote]28 changes to post-project operating rates as shown in Table 5-7 ["Project Post-Project Operating Rates for PM and PM_{10}, showing an increase in the use of natural gas and the elimination of use of COG and oil]; and changes to emissions unit groups for certain material handling operations as discussed in footnote (a) of both Table 5-5 and Table 5-6 herein..

[Footnote] 28 In the 1995 Application for post-project PM and PM_{10} emissions from the BOF roof monitor, National Steel proposed lower emissions factor reflecting the implementation of measures to improve capture and control efficiency in the BOF. Illinois EPA agreed with this proposal, incorporated lower emissions factors in the 1996 Construction Permit and recognized the PM and PM_{10} emissions reductions in the netting analysis for these pollutants. No changes are proposed by USS Granite City to the post-project PM and PM_{10} emission factors for the BOF Shop roof monitor. [Emphasis added, as this statement is inconsistent with Section 5.5.2.2 of the Application as it requests that the revised Permit 95010001 prescribe use of particulate emission factors for the BOF Shop roof monitor that are lower or more stringent than the current emission limits for those emissions.]

[Footnote of both Tables 5-5 and 5-6) (a) Emission unit grouping have been revised slightly. The identified line items associated with material handling operations were grouped with the blast furnace operation of BOF in Construction Permit No. 95010001. Material handling for coke, {iron} pellets and limestone are now included in project emissions. Baghouse 1 for Material Handling is also now grouped with material handling operations. In addition, the Baghouse 3 for Argon Stirring and Ladle Metallurgy is now grouped with BOF shop operations.

Application, Section 5.3, "Post-Project PM and PM_{10} Emissions Limitations," pp. 5-11 and 5-12.

[166] Incidentally, Table 5.8 of the Application erroneously repeats the proposed revised emissions caps for Material Handling Operations, 30 and 19 tons/year for PM and PM_{10}, respectively, as the totals of the revised emission caps that are proposed for all of the various groups of units.

[167] As already discussed, project emissions of 17.2 tons/year from these operations are more than the maximum emissions of these operations, 2 tons/year as now indicated in Permit 95010001, Table 5, Limits of Emissions of Major Processes and Activities. The value of 2 tons/year for maximum future PM_{10} emissions of these operations is consistent with information in Table F-3 from

revised net emissions increases analyses in Appendix B of the Application, "USS Granite City - 1996 Production Increase Project: Revised PM PSD Net Emissions Increase Analysis," and "USS Granite City - 1996 Production Increase Project: Revised PM_{10} PSD Net Emissions Increase Analysis," is it apparent that relaxations in Permit 95010001 are being requested for the material handling operations for coke, iron pellets and limestone. However, these tables do not explain why these relaxations are being requested or why the specific changes that are requested would be appropriate. They also do not explain why the baseline emissions for these operations for PM and PM_{10} are identical at 17.2 tons/year.[168]

National Steel's original application. Table F-3 indicates that the baseline PM10 emissions of these operations, 17.2 tons/year, would be reduced with the Project by the required control measures to no more than about 2 tons/year (actually 2.26 tons/year), with an increase in PM_{10} emissions with the Project of 0.79 tons/year. As such, the Application requests a relaxation in Permit 95010001 relative to the maximum emissions of these operations as currently indicated in this permit. Accordingly, it was clearly appropriate for the Application to provide supporting information for the representations that it makes with regard to the emissions of these material handling operations with the Project.

[168] The two tables in Appendix B of the Application that set forth US Steel's revised PSD applicability analyses for the Project for PM and PM_{10}, provide the following information for the Material Handling Operations at BF (Blast Furnace) and BOF:

Information Provided for Material Handling at BF and BOF*					
Emissions Point	Pre-Project Annual Throughput and Units	PM/PM_{10} Pre-Project Emission Factor	PM/PM_{10} Baseline Emissions (T/Y)	PM/PM_{10} Future Emissions (T/Y)	Change from 1996 analysis
Material Handling for Coke, Pellets, Limestone	Table F-3 of the 1995 Permit Application	—	17.2/17.2	—	This activity was previously only listed in the contemporaneous changes
Iron Pellet Screen	2,803,242 tons of charge material	0.00375/0.00131 lb/ton charge material	5.3/1.8	—	USS representation of 85% control to crushed stone EF
BOF Hopper Baghouse	2,413,406 tons of steel	0.00032/0.00032 lb/ton steel**	0.4/0.4	—	No change other than regrouping
BOF Bin Floor Baghouse	"	0.0016/0.0016 lb/ton steel**	1.9/1.9	—	"
Baghouse 1 for Material Handling	"	0.00355/0.00355 lb/ton steel**	4.3/4.3	—	"
Subtotal	—	—	29.0/25.6	30.0/19.0***	-

* This heading suggests that only emissions from material handling operations for coke, pellets and limestone at the blast furnaces were being addressed.
** These emissions factors are identical to the applicable emission factor limits currently set in Table 2 and Table 3 of Permit 95010001.

C. The Application Includes All Required Information Relating to Quantifying Emissions of NOx and VOM from the Casthouse Roof Monitor (Denial Point 9)

In the draft denial letter, Attachment 1, the Illinois EPA correctly observes that, among the procedures proposed by US Steel in the Application for demonstration of compliance with the proposed NOx and VOM emission caps, US Steel proposed that emissions of these pollutants from the Blast Furnace Casthouse Roof Monitor be calculated as 5.3 percent of the measured emission rate from the Blast Furnace Casthouse Baghouse. (This value reflects the assumption that the emissions from the baghouse represent 95.0 percent of the total emissions from the casthouse and the uncaptured and unmeasured emissions represent 5.0 percent of the total (0.05 ÷ 0.95 = 0.053.)

The Illinois EPA then asserts that the Application does not demonstrate that the proposed methodology would yield calculated emission factors that are representative of actual emissions from casthouse roof monitor under all conditions. In particular, the proposed methodology might underestimate actual emissions if the capture efficiency is less than the 95 percent assumed in the Application. Finally, the Illinois EPA suggests that prescribing specific emission factors for NOx and VOM in the permit could be more easily shown to be representative than the approach proposed in the Application. As these assertions are intended to support the proposed denial of the Application, they are not a valid basis for denial of the Application. It is the responsibility of Illinois EPA to draft a permit with conditions it judges to be suitable and appropriate; the permit applicant has no obligation to reflect in the permit application a correct guess as to how the Illinois EPA will exercise its judgment regarding these matters.

There is potentially a problem, as discussed in Denial Point 9, that an actual capture efficiency less than 95 percent would not be reflected in the calculation methodology proposed in the Application. However, this problem is only theoretical. This scenario is effectively prohibited, as operation of the blast furnace casthouse capture system is subject to stringent requirements under 40 CFR Part 63 Subpart FFFFF, particularly 40 CFR 63.7790(b). Thus, if it were up to US Steel to decide on an appropriate emission determination methodology for the revised permit, the proposed 5.3 percent ratio

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***** The revised PSD analyses in the Application also address the changes in the overall emissions of these material handling operations, indicating an increase of 1.0 ton/year for PM and a decrease of 6.6 tons/year for PM_{10}.**

approach would be used. However, US Steel recognizes that this decision is within the judgment and discretion of Illinois EPA.

As an initial matter, as the comment acknowledges the responsibility of the Illinois EPA to prepare permits that it considers suitable, it is unclear whether a detailed response is even needed to this comment. With respect to the emission determination methodology for NOx and VOM emissions from the casthouse roof monitor proposed by the Application, the Illinois EPA has determined that it cannot prepare a permit that would prescribe use of such methodology because the Application does not show that this would be appropriate. In particular, as discussed in detail in General Response 2, Section 8B of this Responsiveness Summary, when a permit applicant requests an air pollution control construction permit that would prescribe use of an emission factor, including a methodology that would set forth how emission factors would be developed on an ongoing basis, it is incumbent on the applicant in its application to show that the requested emission determination methodology would be appropriate. If an application for an air pollution control construction permit does not make such showing, the application would not meet the standard for issuance of a permit at Section 39(a) of the Act.

That said, the Illinois EPA will provide a brief explanation why, in the absence of any meaningful substantive support in the Application, the Illinois EPA has determined that the proposed emissions determination methodology should not be considered appropriate. This is because it presumes that a positive correlation or relationship will always exist between NOx and VOM emissions measured from the baghouses controlling particulate emissions of the casthouse (i.e., captured emissions) and the NOx and VOM emissions that occur through the roof monitor on the casthouse (uncaptured emissions).[169] As such, the Application does not confront the possibility that the actual rate of NOx or VOM emissions through the

[169] Of particular concern for the proposed emission determination methodology is what would occur when the rate of NOx or VOM measured by testing is lower than the rate measured in the previous test. With the proposed methodology, it would be presumed that if testing shows a lower rate of captured NOx or VOM emissions, the rate of uncaptured emissions is also lower. However, the Application does not show there could be other causes for the lower measured rate of NOx or VOM. For example, lower measured emissions could be due to atypical operating conditions during the casting process in the casthouse. It could also reflect operation of the capture systems for the particulate control devices at minimum operating levels necessary to comply with the opacity standards that apply to the casthouse roof monitor, rather than at normal levels of operation. The Application does not address the possibility that the emission factors for NOx and VOM resulting from the proposed emission determination methodology could be affected or impacted by such phenomena.

casthouse roof monitor is unchanged even though the measured emissions of captured NOx or VOM are lower.[170]

Finally, this comment does not support its claim that an actual capture efficiency for the casthouse that is less than 95 percent is only theoretical because of applicable requirements of 40 CFR 63 Subpart FFFFF, e.g., requirements under 40 CFR 63.7790(f). This rule involves operational requirements for the capture systems on casthouses for compliance with the standard for the opacity of particulate emission from any opening in the casthouse or structure housing the casthouse, e.g., the roof monitor. However, this NESHAP does not directly address the level of capture efficiency that must be achieved for particulate emissions. The Application also does not show that at this facility, a capture efficiency of at least 95 percent must be achieved for particulate emissions of the casthouse to be able to comply with the applicable standard in 40 CFR 63 Subpart FFFFF for the opacity of emissions from the roof monitor.

D. The Application Includes All Required Information Relating to Quantifying Emissions of Particulate from the Blast Furnace Casthouse Roof Monitor (Denial Point 10 - Particulate Emissions from the Casthouse Roof Monitor)

In the draft denial letter, Attachment 1, Illinois EPA correctly observes that, among the things requested by the Application, the Application requested that revised Permit 95010001 prescribe that particulate emissions from the casthouse roof monitor be calculated using emission factors for PM and PM_{10} of 0.030 and 0.0153 lb/ton of iron, respectively.[171] The Illinois EPA then asserts that the Application

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[170] The Application also does not explain why an emissions determination methodology is proposed to be prescribed for uncaptured emissions of NOx and VOM from the casthouse that relates the emissions factors that are used to calculate these emissions to the measured NOx and VOM emission rates of captured emissions. For particulate emissions, specific emission factors are proposed for uncaptured emissions of the casthouse, which factors would be independent of the rates of captured emissions of particulate measured in periodic emission tests. For uncaptured NOx and VOM emissions of the casthouse, what makes it preferable to prescribe an emission determination methodology whereby the emission factors that must be used to calculate uncaptured emissions of NOx and VOM would change over time as testing is conducted for captured emissions of these pollutants?

[171] These emission factors for emissions through the roof monitor are derived from the factor for uncontrolled or "pre-control" PM emissions, 0.6 lb/ton of iron, in USEPA's *Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (AP-42)*, 4th Ed. (May 1983), Section 7.5, "Iron and Steel Production," Table 7.5-2, "Particulate Emission Factors for Iron and Steel Mills."

is deficient as relating to these factors because the Application "does not include relevant supporting information," "only references a single memorandum from 2019 by various USEPA staff and a consultant as support for achievement of 95 percent capture efficiency," and therefore does not demonstrate that the proposed emission factors would yield calculated emission rates that are representative of actual emissions from the casthouse roof monitor.

This assertion of a deficiency in the Application is without merit. The Illinois EPA does not identify any provision of the Act or the Illinois Code requiring that a permit application include any particular supporting information, nor does the Illinois EPA point to even an application form or guidance document suggesting that such documentation or additional explanation be provided. The Application includes all information required by the applicable permitting rules. Notably, the supporting information provided in the Application regarding the emission factors at issue is more extensive than the documentation provided in the application submitted by National Steel and accepted by Illinois EPA when issuing Permit 95010001 in 1996. Emission factors of 0.031 and 0.155 lb/ton for PM and PM_{10}, respectively, based on the assumption that 95 percent capture efficiency is achieved at the casthouse at this facility, have been consistently used by Illinois EPA in permitting for decades.[172]

By way of some background on this issue, in the application submitted in March 2020, US Steel used PM and PM_{10} emission factors of 0.031 and 0.0155 lb/ton of iron, respectively, which were also proposed to be prescribed. Among Illinois EPA's informal comments regarding that application, the Illinois EPA pointed out that these historically assumed emission factors are slightly higher than the values that would result from correctly deriving the emission factors using an assumptions of 95 percent capture efficiency. It was also explained that the Illinois EPA's records do not appear to contain an explanation for this discrepancy. It was suggested that US Steel use the revised and corrected emission factors, i.e., factors of 0.030 and 0.0.0153 for PM

The factor for PM then assumes 95 percent capture efficiency, *i.e.*, uncaptured emissions are 5 percent of the factor for uncontrolled emissions (0.05 × 0.6 = 0.030). The factor for PM_{10} is based on 51 percent of the PM being PM_{10} (0.51 × 0.030 = 0.0153), based on the particle size distribution in USEPA's *Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (AP-42)*, 5th Ed. (January 1995), Section 7.5, "Iron and Steel Production," Table 7.5-2, "Size Specific Emission Factors." (Adapted from Footnotes 37 and 38 of US Steel's Comments of January 2024.)

[172] *See, e.g.*, Permit 95010001 issued January 25, 1996, and the "Statement of Basis for the Planned Issuance of a Revised Clean Air Act Permit Program (CAAPP) Permit for: United States Steel Corporation, Granite City Works," Illinois EPA, February 4, 2013, p. 41. (Footnote 39 of US Steel's Comments of January 2024.)

and PM_{10}, respectively, which it did in the Application submitted in October 2022.

In light of Illinois EPA's repeated acceptance of and reliance on the assumption of 95 percent capture efficiency in numerous permitting actions over many years, including several permitting actions occurring prior to US Steel's ownership of the facility, and in light of the informal suggestion by Illinois EPA to correct the emission factor calculations in the manner described above, US Steel reasonably concluded that no further justification was needed as part of the Application, as submitted in October 2022. Of course, Illinois EPA retains authority pursuant to 35 IAC 201.152 to request additional information in conjunction with a construction permit application, but that was not done.

Alternatively, if the Illinois EPA now believes there is insufficient data to quantify the capture efficiency of the state-of-the-art capture systems at the casthouse at this facility and that the emissions from the casthouse roof monitor, are therefore not quantifiable, then, as these emissions are fugitive emissions under the NSR rules (e.g., 40 CFR 52.21(b)(20)), these emissions should be omitted from the analyses performed to determine whether the source obligation provisions apply in conjunction with the permit revisions requested by US Steel. As already discussed in Comment XI, fugitive emissions are counted for purposes of PSD and NaNSR applicability determinations only to the extent that such emissions are quantifiable.

This comment does not show that the Application should not be denied based on Denial Point 10 as it addresses particulate emissions from the roof monitor on the casthouse. In this regard, the comment ignores the fact that the Application requests that the revision to Permit 95010001 that is sought prescribe the emission factors that US Steel must use for these particulate emissions. As a consequence, the Application must also provide substantive support for the emission factors that are being proposed, as discussed in the "General Response 2, Section 8B of this Responsiveness Summary. The Application did not do this. As discussed in General Response 2, the fact that the Illinois EPA has historically accepted the emission factors that are now proposed for purposes of applicability of NSR is not sufficient to show that it would be appropriate for the requested revision to Permit 95010001 to now prescribe the use of such factors on an ongoing basis. Similarly, US Steel's expectations for the information that needed to be included in the Application are not relevant to the standards for issuance of a construction permit or denial of an application.

In addition, as in the alternative, this comment claims that the uncaptured particulate emissions of the blast furnace casthouse should be treated as "fugitive emissions" for purposes of NSR, such treatment

would be contrary to the definitions of fugitive emissions under the NSR programs. Tapping of the blast furnaces occurs in a structure, the casthouse. The uncaptured emissions that accompany tapping of the furnaces are released to the atmosphere through the roof monitor on the casthouse, an opening that is designed to facilitate venting of hot air and emissions from the casthouse. As such, the uncaptured emissions of the casthouse are emissions that pass through a stack, chimney, vent or other equivalent opening. The fact that these emissions are not captured and directed to the particulate control systems on the casthouse is not relevant to the appropriate treatment of these emissions under the NSR programs.

The claim in the comment that the capture systems on the casthouse are state-of-art is also irrelevant. This is because the issue is whether uncaptured emissions from the casthouse would be appropriately quantified based on the emission factors proposed in the Application. The issue is not whether the level of capture being achieved for the emissions of the casthouse is appropriate.[173]

Finally, as discussed in General Response 1, Section 8A of this Responsiveness Summary, it is not necessary for there to be a provision of the Act or the Illinois Code, or other guidance that specifies the particular information that must be included in an application for an air pollution control construction permit. The application must include information that is sufficient to provide proof that the facility or equipment addressed by the application will not violate applicable provisions of the Act and the Illinois Code. The Illinois EPA's ability to request additional information to remedy deficiencies in permit applications is not provided by 35 IAC 201.152. The Illinois EPA may directly proceed with denial of an air pollution control permit application without requesting that the applicant supplement or revise the submitted application.

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[173] The claim that the capture systems for the emissions of the casthouse are state-of the art is also questionable. Under the Clean Air Act, Maximum Achievable Control Technology (MACT) for a source is not necessarily identical to "state-of-art."* Moreover, even if the NESHAP is considered to require state-of-art technology, the capture systems for the casthouse should at least comply with the opacity limit of the NESHAP for new sources, not the limit for existing sources, i.e., a limit for opacity on a 6-minute average of no more than 15 percent, rather than 20 percent.

* Under Section 112(d)(3) of the Clean Air Act, for existing sources MACT need only be at least as stringent as the average emission limitation achieved by the best performing 12 percent of the existing sources in a source category or, if emission information is only available for less than 30 sources, at least as stringent as the average emission limitation achieved by the best performing five sources.

E. The Application Includes All Required Information Relating to Quantifying Particulate Emissions of the Slag Pits (Denial Point 10 – Slag Pits)

In the draft denial letter, Attachment 1, the Illinois EPA correctly observes that, among other things, the Application requests that the revisions to Permit 95010001 prescribe use of an emission factor of 0.00417 lb/ton of hot metal for the particulate emissions of the Slag Pits. The Illinois EPA then asserts that the Application is deficient as relating to this emission factor because the Application "does not include relevant supporting information" and therefore does not demonstrate that the proposed emission factor would yield calculated emission rates that are representative of actual emissions of the Slag Pits.

This assertion regarding a deficiency in the Application is without merit. The Illinois EPA does not identify any provision of the Act or the Illinois Code requiring that a permit application include any particular supporting information, nor does the Illinois EPA point to even an application form or guidance document suggesting that such documentation or additional explanation be provided. The application includes all information required by the applicable permitting rules. Notably, the supporting information provided in the Application regarding the emission factor at issue is more extensive than the documentation provided in the permit application submitted by National Steel in 1995 and accepted by Illinois EPA when issuing Permit 95010001 in 1996. The emission factor of 0.00417 lb/ton for the Slag Pits at the facility has been consistently applied by Illinois EPA for decades. The summary of the derivation of that factor as provided by US Steel in the Application is simply a paraphrasing of Illinois EPA's description.[174]

In light of Illinois EPA's repeated acceptance of and reliance on this emission factor in permitting actions over the years, including several

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[174] See, e.g., "Statement of Basis for the Planned Issuance of a Revised Clean Air Act Permit Program (CAAPP) Permit for: United States Steel Corporation, Granite City Works," Illinois EPA (February 4, 2013), p. 42, as it indicated stated the following relative to the PM/PM_{10} emissions of the slag pits:

> Emission Factor: 0.00417 lbs/ton of iron
> Origin of EF: Calculated from EPA Assessment of Atmospheric Emissions from Quenching of Blast Furnace Slag. Also, AP-42, Table 13.2.4-4, Fugitive Uncontrolled emissions. Summation of the following emission factors:
> a. Slag Quenching = 0.0026 lbs/ton iron,
> b. Slag Digging = 0.00157 lbs/ton iron.
> Update Methodology: Refer to Conditions 7.4.9(i). 5.9.6(c) and 5.13 of the permit.

(Footnote 45 of US Steel's Comments of January 2024.)

permitting actions occurring prior to US Steel's ownership of the facility, US Steel reasonably concluded that no further justification was needed as part of the permit application supplement submitted in October 2022. Of course, Illinois EPA retains authority to request additional information in conjunction with a construction permit application pursuant to 35 IAC 201.152, but that was not done here.

This comment does not show that the Application should not be denied based on Denial Point 10 as it addresses particulate emissions from the slag pits. In particular, as discussed in detail in General Response 2, Section 8B of this Responsiveness Summary, when a permit applicant requests an air pollution control construction permit that would prescribe use of certain emission factors, it is incumbent on the applicant in its application to show that the proposed factors would be appropriate. Absent such a showing, the Illinois EPA cannot issue the requested permit as it would not meet the standard for issuance of a permit at Section 39(a) of the Act. As explained in General Response 2, as well as in General Response 1, even if the Illinois EPA had prescribed the use of certain emissions factor(s) in past permitting actions, which it has not done,[175] this would not be sufficient to justify issuance of a revision to Permit 95010001 that would prescribe the continued use of such factors. This comment ignores the all-important fact that US Steel, in its Application, requests that revised Permit 95010001 prescribe the emission factors that US Steel is to use on an ongoing basis to calculate emissions of certain units and emission points for the purpose of determining compliance with limitations on annual emissions. The Illinois EPA does not have the obligation to show that emission factors that a permit applicant, not the Illinois EPA, itself, proposes to be prescribed are appropriate.

In addition, this comment's claim that the Illinois EPA prescribed use of emission factors in 2013 when acting on Permit 96030056, the CAAPP permit for the facility, does not hold up to scrutiny. The Illinois EPA's February 4, 2013, Statement of Basis for the planned revisions to Permit 96030056, as referenced by this comment, does not show that a revision of Permit 96030056 was planned that would prescribe the use of specific emission factors for particulate emissions of the slag pits, much less that the Illinois EPA actually issued a revised permit that

[175] As already discussed, the Illinois EPA considers the provisions in Permit 95010001 that limit emissions of units in pounds/ton produced or handled; pounds/million cubic feet of fuel burned; or pounds/hour, including the limits for the slag pits, to be enforceable limits on the emissions of the subject units. These limits were included in Permit 95010001 in 1996 to enforceably limit the emissions of these units either so that the Project would not be a major modification for a pollutant or, as the Project was a major modification for SO_2 and CO, to enforceably limit emissions of SO_2 and CO to the amounts provided for by means of the PSD approval.

prescribed use of particular emissions factors. The information for the slag pits in the attachment to that Statement of Basis, as referred to by this comment, was provided in this document to inform the USEPA and the public of the emission factors that US Steel was using to determine emissions of Project-affected process emission units at the time this document was prepared.[176]

F. The Application Includes All Required Information Relating to Quantifying Particulate Emissions of the Continuous Casting Operations (Denial Point 8 - Continuous Casting Operations)

In the draft denial letter, Attachment 1, the Illinois EPA correctly observes that, among the procedures proposed by the Application for the ongoing demonstration of compliance with the proposed emission caps, US Steel proposed that the PM and PM_{10} emissions of the Caster Mold, Slab Cutoff, and Slab Ripping operations be calculated using prescribed emission factors. Illinois EPA then asserts that as related to those emission factors, the Application is deficient because the Application does not include supporting information "sufficient to show that the emission factors that are proposed as prescribed factors are representative."

The assertion of a deficiency in the Application is without merit. The Illinois EPA does not identify any provision of the Act or the Illinois Code requiring that a permit application include any particular supporting information, nor does the Illinois EPA point to even an

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[176] The information in an attachment in the Statement of Basis for the planned revisions of Permit 96030056 referenced in this comment was part of the Illinois EPA's planned response to deficiencies, as identified in USEPA Order,* in the CAAPP permit for the facility that was issued in May 2011. As explained in this statement of basis, in the planned revision to Permit 96030056, the Illinois EPA was not planning to prescribe emission factors for various emission units. Rather the information in the attachment responded to a finding by USEPA in its Order that, "The Illinois EPA shall make available for public comment the emission factors that US Steel initially intends to use to demonstrate compliance with the subject emission limits [emissions limitations for Project-affected process units set by Permit 95010001]." (Statement of Basis, p. 22 of 47.) The cited attachment made the emission factors being used by US Steel directly available for review by the public, as required by the Order. The Illinois EPA also explained, "The revised CAAPP permit that the Illinois EPA now plans to issue would include a listing of the emission factors that US Steel is currently using to determine compliance with the subject limits." (Statement of Basis, p. 22 of 47.)

*Before the Administrator, United States Environmental Protection Agency, In the Matter of: United States Steel Corporation - Granite City Works, CAAPP Permit No. 96030036 Proposed by the Illinois Environmental Protection Agency. Order Responding to Petitioner's Request That the Administrator Object to the Issuance of State Operating Permit; Order Granting in Part and Denying In Part Petition for Objection to Permit, December 3, 2012.

application form or guidance document suggesting that such documentation or additional explanation be provided. The Application includes all information required by the applicable permitting rules. Notably, the supporting information provided in the application regarding the emission factors at issue is more extensive than the documentation provided in the application submitted by National Steel in 1995 and accepted by the Illinois EPA when issuing Permit 95010001 in 1996. These PM/PM_{10} emission factors for the continuous casting operation at the facility have been consistently accepted by the Illinois EPA for the purpose of permitting over many years.[17]

In light of Illinois EPA's acceptance of these emission factors in various permitting actions over the years, including permitting actions before US Steel's ownership of the facility, US Steel reasonably concluded that no further justification was needed as part of the Application. Of course, Illinois EPA retains authority pursuant to 35 IAC 201.152 to request additional information in conjunction with a construction permit application, but that was not done here.

This comment does not show that the Application should not be denied based on Denial Point 10 as this denial point addresses particulate emissions from continuous casting. In particular, as discussed in detail in General Response 2, Section 8B of this Responsiveness Summary, when a permit applicant requests an air pollution control construction permit that would prescribe use of certain emission factors, it is incumbent on the applicant in its application to show that the requested factors would be appropriate. If an application does not make such showing, the application would not meet the standard for issuance of a construction permit at Section 39(a) of the Act. In addition, as explained in General Response 2, as well as in General Response 1, even if the Illinois EPA has prescribed the use of certain emissions factors in past permitting actions, which it has not done, this would not be sufficient to justify issuance of a revision to Permit 95010001 that would prescribe the continued use of these factors. Like an earlier comment, this comment again ignores the fact that the Application requests that the revision to Permit 95010001 prescribe the emission factors that US Steel must use on an ongoing

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[17] See, e.g., "Statement of Basis for the Planned Issuance of a Revised Clean Air Act Permit Program (CAAPP) Permit for: United States Steel Corporation, Granite City Works," Illinois EPA (February 4, 2013) at p. 47. For example, the following was indicated relative to the PM/PM_{10} emissions of Slab Cutoff:

> Emission Factor: 0.0071 lbs/ton of steel
> Origin of EF: Illinois EPA 1991 EIS PM/PM_{10} Report
> Update Methodology: Refer to Conditions 7.6.9(c), 5.9.6(c) and 5.13 of the permit.

(Footnote 47 of US Steel's Comments of January 2024.)

basis for certain units and emission points when determining compliance with limitations on annual emissions.

Again, the Illinois EPA's February 4, 2013, Statement of Basis for planned revisions to Permit 96030056, as referenced by this comment, does not show that the Illinois EPA was planning to issue a revision of this permit that would prescribe use of specific emission factors for particulate emissions of the continuous casting operations. As already discussed earlier in response to US Steel's Comment XII.E concerning the slag pits, the information for the continuous casting operations in the attachment to this Statement of Basis, as referred to by this comment, was provided to inform the USEPA and the public of the emission factors that US Steel was using to determine emissions of Project-affected process operations at the time that this statement of basis was prepared.

Finally, as discussed in General Response 1, Section 8A of this Responsiveness Summary, it is not necessary for there to be a provision of the Act or the Illinois Code, or other guidance that specifies the particular information that must be included in an application for an air pollution control construction permit. The Illinois EPA is also not required to request information from a permit applicant to address deficiencies in the submitted application before proceeding to deny the application.

G. The Application Includes All Required Information Relating to Quantifying Particulate Emissions from the Iron Pellet Screen (Denial Point 10 - Iron Pellet Screen)

In the draft denial letter, Attachment 1, the Illinois EPA correctly observes that, among the emission factors that the Application proposes be prescribed, for the Iron Pellet Screen, the Application proposes an emission factor for both PM and PM_{10} of 0.00131 lb/ton of material. As explained in the Application, this emission factor is derived from the PM_{10} emission factor published by USEPA for crushed stone screening, 0.0087 lb/ton of material, applying 85 percent control efficiency.[178]

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[178] USEPA, *Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (AP-42)*, 5th Ed., Aug. 2004, Section 11.19.2, "Crushed Stone Processing and Pulverized Mineral Processing," Table 11.19.2-2, "Emission Factors for Crushed Stone Processing Operations," updated Aug. 2004. A control efficiency of 85 percent was applied for this operation, [USEPA, *Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (AP-42)*, 4th Ed., Supplement No. 14], May 1983] Section 7.5, "Iron and Steel Production," Table 7.5-2, "Particulate Emission Factors for Iron and Steel Mills." (Footnote 49 in US Steel's Comments of January 2024.)

Illinois EPA then asserts that the Application is deficient as related to its request that the revised permit prescribe the emission factors that are to be used for the iron pellet screen. This is because the Application, "does not include relevant supporting information." In particular, the assumption of 85 percent control efficiency is not supported. The use of an emission factor for PM derived from an emission factor for PM_{10} is also questioned, as USEPA's published factors show that more PM emissions than PM_{10} emissions. Therefore, the Application does not demonstrate that the proposed factor would yield data for emissions that is representative of actual emissions of the Iron Pellet Screen and the Application is deficient. In fact, the proposal of the PM_{10} derived emission factor as the prescribed factor for PM emissions was an error.[179] US Steel's intent was that corresponding PM emission factor of 0.00375 lb/ton of material, as shown in Table 5-5 of the Application, be prescribed.

Nonetheless, the assertion regarding a deficiency in the Application is without merit. The Illinois EPA does not identify any provision of the Act or the Illinois Code requiring that a permit application include any proposed emission quantification methods for fugitive emissions, nor does the Illinois EPA point to even an application form or guidance document suggesting that such a proposal be provided. The Application includes all information required by the applicable permitting rules. It is the responsibility of Illinois EPA to draft a permit with conditions it judges to be suitable and appropriate, including recordkeeping requirements and other compliance demonstration methods. The permit applicant has no obligation to reflect in its application a correct guess as to how the Illinois EPA will exercise its judgment regarding these matters.

This comment does not show that the Application should not be denied based on Denial Point 10 as it addresses the emissions of the Iron Pellet Screen. In particular, as discussed in detail in General Response 2, Section 8B of this Responsiveness Summary, when a permit applicant requests an air pollution control construction permit that would prescribe use of certain emission factors, it is incumbent on the applicant in its application to show that the proposed factors would be appropriate. Absent such a showing, the Illinois EPA cannot issue the requested permit as it would not meet the standard for issuance of a permit at Section 39(a) of the Act. Like earlier comments, this comment again ignores the fact that the Application requests that revised Permit 95010001 prescribe the emission factors

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[179] While this comment characterizes this error as a scrivener's error, this characterization in not appropriate. When this comment was made, the Application was still pending. US Steel had the ability to unilaterally, without any concurrence by the Illinois EPA, to submit an erratum to correct the Application.

that US Steel must use on an ongoing basis for certain units and emission points when determining compliance with limits on annual emissions.

Moreover, this comment actually provides support for denial of the Application based on Denial Point 10 as it addresses the Iron Pellet Screen. For this unit, the Application simply identifies the proposed prescribed emission factor without providing any further explanation.[180] The comment indicates that the Application was in error as it proposed the same factor be prescribed for both PM and PM_{10}.[181] In addition, the comment also acknowledges that the proposed factor reflects application of a control efficiency of 85 percent to a published USEPA factor. However, the comment does not identify place(s) in the Application where support was provided for use of a particulate control efficiency of 85 percent for this unit. This comment does not even describe the control measures, control practices or considerations that act to lower its rate of emissions from the uncontrolled factor provided by USEPA.[182]

Finally, as discussed in General Response 1, Section 8A of this Responsiveness Summary, it is not necessary for there to be a provision of the Act or the Illinois Code, or other guidance that specifies the particular information that must be included in an

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[180] With respect to the Iron Pellet Screen, Section 5.5.4.2, "Prescribed Emission Factors for Material Handling," the Application simply states:

> USS Granite City is proposing the following prescribed emissions factors for emission points for which emission testing is not feasible.
>
> a) For Iron Pellet Screen fugitives, use PM/PM_{10} emission factor of 0.00131 lb/ton."

[181] Upon reflection, the Application is also likely flawed as Section 5.5.4.2 refers to Iron Pellet Screen fugitives, rather than simply to the emissions of this unit. As the proposed factor is identified as addressing the fugitive emissions of this unit, it suggests that this unit has both "uncaptured emissions" and, as emissions are controlled, "captured emissions." The factor that is proposed only addresses the uncaptured emissions. In fact, the characterization of the proposed factor as addressing the fugitives of this unit is likely gratuitous. All emissions of this unit are likely being addressed. Rather than use of an add-on air pollution control device, the control measures or considerations that lower emissions compared to the published factor for uncontrolled emissions are reflected in the proposed factor.

[182] With respect to use of a control efficiency of 85 percent, this comment attempts in a footnote to now provide support for this efficiency. (This footnote appears to refer to information in a May 1983 update to USEPA's *Compilation of Air Pollutant Emission Factors*.) However, in that document, the referenced table, Table 7.5-2, does not address handling or processing of raw materials at an iron and steel mill, much less the reduction in particulate emissions from various control measures.

application for an air pollution control construction permit. The application must include information that is sufficient to provide proof that the facility or equipment that is the subject of the application will not violate applicable provisions of the Act and the Illinois Code.

H. The Application Includes All Required Information Relating to Quantifying Particulate Emissions of the Mag Lime Silo (Denial Point 8 - Mag-Lime Silo)

In the draft denial letter, Attachment 1, the Illinois EPA correctly observes that the Application proposes a prescribed emission factors for the particulate emissions of the Mag-Lime Silo, i.e., 0.009 lb/hour for both PM and PM_{10}. The Illinois EPA then asserts that the Application is deficient as relating to this factor because the application does not include supporting information demonstrating that the proposed factor is representative of actual emissions from the Mag Lime Silo.

The assertion regarding a deficiency in the Application is without merit. The Illinois EPA does not identify any provision of the Act or the Illinois Code requiring that a permit application include any proposed compliance demonstration methods, nor does the Illinois EPA point to even an application form or guidance document suggesting that such a proposal be provided. The Application includes all information required by the applicable permitting rules. It is the responsibility of Illinois EPA to draft a permit with conditions it judges to be suitable and appropriate, including recordkeeping requirements and other compliance demonstration methods. A permit applicant has no obligation to reflect in the permit application a correct guess as to how the Illinois EPA will exercise its judgment regarding these matters.

This comment does not show that the Application should not be denied based on Denial Point 8 as it addresses the Mag-Lime Silo. The comment does not show that the Application contains any supporting information for the emission factor that it proposes be prescribed for the Mag-Lime Silo by Revised Permit 95010001. As discussed in detail in General Response 2, Section 8B of this Responsiveness Summary, when a permit applicant requests an air pollution control construction permit that would prescribe use of certain emission factors, it is incumbent on the applicant in its application to show that the proposed factors would be appropriate. If such showing is not made, the application would not meet the standard for issuance of a permit at Section 39(a) of the Act. Like earlier comments, this comment again ignores the fact that the Application requests that revised Permit 95010001 prescribe the emission factors that US Steel must use on an ongoing basis for certain units and emission points to

determine compliance with limits on annual emissions.[183]

Finally, as discussed in General Response 1, Section 8A of this Responsiveness Summary, it is not necessary for there to be a provision of the Act or the Illinois Code, or other guidance that specifies the particular information that must be included in an application for an air pollution control construction permit. The application must include information that is sufficient to provide proof that the facility or equipment that is the subject of the application will not violate applicable provisions of the Act and the Illinois Code.

I. The Application Includes All Required Information Relating to Quantifying Particulate Emissions of from the BOF Shop Roof Monitor (Denial Point 8 – Particulate Emissions from the BOF Shop Roof Monitor)

II. The Proposed Prescribed Factors Are Lower Than the Factors That Were Used by National Steel in Its Emission Calculations

In the draft denial letter, Attachment 1, the Illinois EPA correctly observes that the Application proposes that emissions of PM and PM_{10} from the BOF Shop Roof Monitor be calculated using prescribed emission factors that are lower than the factors used by National Steel in the original application for Permit 95010001.

This comment does not show that the Application should not be denied based on Denial Point 8 as it addresses the particulate emissions of the BOFs from the roof monitor on the BOF shop. In particular, as discussed in detail in General Response 2, Section 8B of this Responsiveness Summary, when a permit applicant requests an air pollution control construction permit that would prescribe use of certain emission factors, it is incumbent on the applicant in its

[183] As US Steel also claimed in this comment that, although it had no obligation to do so, it requested that emissions from the Mag-Lime Silo be subject to limits, this claim is both unsupported and irrelevant. The Mag-Lime Silo is a particulate emission unit, admittedly with very few emissions. It should have been addressed by National Steel in its original Application for the Project.

As US Steel also claims that related to the emissions of the Mag-Lime Silo, the proposed denial of the Application will simply ensure the status quo is maintained, *i.e.*, that US Steel is not subject to any limitations on emissions from this unit, this is both irrelevant and overly simplistic. The particulate emissions of the Mag Lime Silo are trivial due to the filter control that is an inherent aspect of pneumatic loading of this silo. Would this unit appropriately be addressed in the revised permit as an insignificant emission unit? If the particulate emissions of this unit are limited, why should they be limited by an emission cap that applies to this unit along with other more substantial, discrete units that also involve material handling and processing?

application to show that the proposed factors would be appropriate. If the application does not make such showing, application would not meet the standard for issuance of a permit at Section 39(a) of the Act. Like earlier comments, this comment again ignores the fact that the Application requests that revised Permit 95010001 prescribe the emission factors that US Steel must use on an ongoing basis for certain units and emission points when determining compliance with limits on annual emissions.

This comment does not address, much less show that the Application includes substantive information supporting the emission factors that are proposed to be prescribed for the particulate emissions for the BOFs that occur through the roof monitor on the BOF shop.[184] Accordingly, this comment does not show that the Application should not be denied based on Denial Point 8 as particulate emissions of the BOFs from the roof monitor are addressed.[185]

I2. The Application Includes All Required Information Relating to Quantifying Particulate Emissions of the BOF Shop Roof Monitor

The Illinois EPA acknowledges in the Draft Denial Letter, Attachment 1, Footnote 42, that the emission factors proposed by US Steel for BOF emissions through the roof monitor may be representative of the current configuration of the BOF Shop. In Footnote 42, the Illinois EPA further asserts that "particulate emissions factors that are representative of particulate emissions circa 1996, before installation of the baghouse system on the BOFs, should be used in the revised netting analyses for PM and PM_{10}." The Illinois EPA goes on to assert that the Application is deficient as related to these factors because "those prescribed factors would not be representative of emissions before the new baghouse system was installed and operation of this system was required."
These assertions are without merit. Although this information may be relevant to an evaluation of whether the Project as authorized by Illinois EPA and as implemented by National Steel prior to US Steel's ownership was a major modification subject to the substantive requirements of the NSR programs, it is not relevant to the "source

[184] Since the emissions factors that the Application proposes be prescribed for particulate emissions of the BOFs from the roof monitor on the BOF shop are not the emission factors used in previous permitting, this comment cannot even point to "earlier reliance" to support the proposed factors.
[185] Incidentally, in US Steel's Comments of September 2023, attention is called to an error in the Draft Denial Letter with respect to the PM and PM_{10} emissions factors that the Application proposes be established as prescribed factors for the BOF Shop Roof Monitor. The factors for PM and PM_{10} are interchanged. US Steel's Comments of January 2024 again call attention to this error. However, based on the original comment pointing out this error, this error was corrected and was not made in the Revised Draft Denial Letter.

obligation" analysis and demonstration that are required here. As already discussed in US Steel's Comment VIII.B, these analyses are prospective, not retrospective; there is no consideration of facts as they may have existed at some prior point in time and no "mixing" of facts from different points in time.

As this comment does not actually address the deficiency in the Application identified in Denial Point 8, or a deficiency identified in another denial point, this comment is not relevant to the proposed denial of the Application. Rather, this comment responds to possible deficiencies in the Application that are of US Steel's own creation and were not identified as a basis for the proposed denial of the Application in the Draft Denial Letters. In this regard, this comment misrepresents Footnote 43 of the Draft Denial Letters as the footnote addresses the emission factors that are proposed for uncaptured particulate emissions of the BOFs (i.e., the particulate emissions that occur through the roof monitor of the BOF shop).[186] In this footnote, the Illinois EPA does not identify deficiencies in the Application but instead provides some clarifying explanation, as is appropriate in a Responsiveness Summary.[187]

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[186] In its entirety, Footnote 43 of the Draft Denial Letter reads is as follows:

> The emission factors that the 2022 application proposes to be prescribed for particulate emissions from the roof monitor on the basic oxygen furnaces may be appropriate at the present time given the installation of a baghouse control system on these furnaces. Nonetheless, for a revised permit to be issued that prescribes emission factors for emissions from the roof monitor, the application must show that those factors are representative with the emission control measures that are required by the permit. It must also be recognized that those prescribed factors would not be representative of emissions before the new baghouse system was installed and operation of this system was required. As such, particulate emissions factors that are representative of particulate emissions circa 1996, before installation of the baghouse system on the furnaces, should be used in the revised netting analyses for PM and PM_{10}.

[187] The first sentence in Footnote 43 confirms that the deficiency that is identified in Denial Point 8 with respect to the absence of supporting information for the emission factors that are proposed for uncaptured particulate emissions of the BOFs (i.e., the particulate emissions that occur through the roof monitor of the BOF shop), is not that these factors are lower than the rates of emissions that were previously used. That is, factors that are lower than factors that were previously used may now be appropriate given the addition of the baghouse control system to the BOFs. The deficiency in the Application is that the Application does not provide information showing that the "new factors" that are proposed for uncaptured emissions would be representative considering the control measures that would be required by the permit. The footnote then observes that, as the new emissions factors would address emissions with the new baghouse system, they would not address emissions before this system was installed and began operation. The final

This comment specifically takes umbrage with the last sentence in this footnote. In this sentence, with respect to the uncaptured particulate emissions of the BOFs (i.e., the emissions that occur through the roof monitor of the BOF shop), the Illinois EPA observes that, "As such, particulate emissions factors that are representative of particulate emissions circa 1996, before installation of the baghouse system on the furnaces, should be used in the revised netting analyses for PM and PM_{10}." The position of the Illinois EPA reflected in this sentence is contrary to the position of US Steel, as set forth in Comment XIII.[188] This fact is acknowledged. However, this does not affect the denial of the Application since the Denial Letter does not identify a deficiency in the Application with respect to the particulate emissions data for the BOFs with the Project used in the revised NSR applicability analyses for PM and PM_{10} in the Application.[189]

J. The Application Includes Adequate Explanation of Projected Post-Project Actual Emissions from Fuel Combustion Units (Denial Points 3 and 7))

J1. The Explanation in the Application for Projected Post- Project Actual Emissions from Fuel Combustion Units Is Adequate (Denial Point 3)

In the draft denial letter, Attachment 1, the Illinois EPA correctly observes that the Application represents the maximum total post-project actual NOx emissions from the Project-affected fuel burning units as 706 tons per year. The Illinois EPA then asserts that the Application is deficient because it "does not explain why actual NOx emissions of the subject units would not exceed this amount going forward if the permit

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sentence of this footnote observes that it would not be proper to use the new emissions factors in the revised NSR applicability analyses for the Project.

[188] As explained in the Illinois EPA's extensive response to US Steel's Comment VIII, the approach to reevaluation of NSR applicability put forth in Comment VIII, which is referred to by this comment, is not correct. Rather, as revised NSR applicability analyses must be prepared to address errors in the original or prior NSR applicability analyses for a project, those analyses must be revisited.

[189] Incidentally, contrary to what this comment implies, it does not appear that the revised PSD applicability analyses in the Application take into consideration the reduction in particulate emissions that resulted from the addition of a baghouse control system for the BOFs. In this regard, for the BOFs, the revised net emissions increase analyses for the Project for PM and PM_{10} indicate "No change" from the 1996 NSR applicability analyses. (Appendix B of the Application, "USS Granite City - 1996 Production Increase Project: Revised PM PSD Net Emissions Increase Analysis," and "USS Granite City - 1996 Production Increase Project: Revised PM_{10} PSD Net Emissions Increase Analysis.")

were revised" as proposed. This assertion is without merit. The explanation is provided in Table 6-7 of the Application, where the proposed revised NOz emissions cap for these units is indicated as 706 ton/year.

This comment does not show that the Application should not be denied. This comment, in condensed form, restates US Steel's Comment IX.E. As explained by the Illinois EPA in response to that comment, the Application did not provide the information identified in this comment in Table 6-7 of the Application. Accordingly, the Application is deficient for the reason detailed in Denial Point 3.

J2. The Application Includes Adequate Explanation of Projected Post-Project Actual NOx Emissions from Fuel Burning Units and Does Not Diminish Illinois EPA's Authority to Impose Enforceable Limits (Denial Point 7)

In the draft denial letter, Attachment 1, the Illinois EPA correctly observes that the Application requests elimination of the gaseous fuel usage limits for Project-affected fuel burning units. The Illinois EPA further asserts as follows:

> While the limits for fuel usage and emissions currently in Permit 95010001 may no longer be relevant, as generally addressed above, this does not mean that other limits for fuel usage and emissions are not appropriate. In this regard, the 2022 application does not show that new limits for fuel usage and emissions would not now be needed and those limits should address fuel burning units other than the Project-affected units currently addressed by the permit. In this regard, limits for usage of fuels and emissions should not extend to Boilers 1 through 10, as they are no longer in operation, having been shut down a number of years before the coke oven batteries were shutdown. As the four slab reheat furnaces at the facility were affected by the elimination of COG, new limits may be needed that also extend to these furnaces. It may also be appropriate for the cogeneration boiler to be addressed by the new limits as this boiler began operation several years before the by-product coke oven batteries at the facility were shutdown. (Internal footnote omitted.)

By way of a brief review of US Steel's approach to this issue, the application submitted in March 2020 expressly requested enforceable emission caps for emissions of NOx and other pollutants from the Project-affected fuel burning units and provided emission calculations supporting these proposed caps. Among Illinois EPA's informal comments regarding that application, it was correctly pointed out that enforceable emission caps are superfluous and unnecessary where the

potential emissions of the affected unit or units are less than or equal to the emission caps that would be under consideration. Accordingly, in the Application, US Steel omitted the express request for enforceable emission caps for the Project-affected fuel burning units.

Notwithstanding this history, it remains the responsibility of the Illinois EPA to draft a permit with conditions it judges to be suitable and appropriate. If Illinois EPA is not persuaded that the future actual emissions from the Project-affected fuel burning units will be less than or equal to the values represented in the Application in the absence of enforceable limits on fuel usage in or enforceable emission caps for these units, then the Illinois EPA undisputedly has the discretion and authority to impose such limits in the permit. A permit applicant has no obligation to reflect in the permit application a correct guess as to how the Illinois EPA will exercise its judgment regarding these matters. That should be especially true where, as here, the Illinois EPA conveys its preliminary judgment, the applicant revises its permit application to be consistent with that representation, and then the Illinois EPA vacillates.

With regard to Illinois EPA's observation that the revised limitations may need to "address fuel burning units other than the Project-affected units currently addressed by the permit," such as the slab reheat furnaces and the co-generation boiler at the facility, US Steel disagrees that such limits would be appropriate. As these emissions units were not among the units affected by the Project, the emissions from these units are not relevant to the "source obligation" analysis and demonstration that are required here, as already discussed in US Steel's Comment VIII.B.

This comment does not show that the Application should not be denied based on Denial Point 7. As acknowledged by this comment, for Project-affected fuel burning units, the Illinois EPA informally questioned whether emission limitations in Permits 95010001 needed to be perpetuated in the requested revision to Permit 95010001. This is because, with the shutdown of ten boilers, the potential emissions of certain pollutants from these units may now be less than would be allowed based on revised analyses of NSR applicability for the Project.[190] However, the Application does not concretely respond to this issue. Instead, when discussing the requested revision to Permit 95010001 related to emissions of PM, PM_{10}, NOx and VOM, the Application,

[190] As this comment addresses the actual emissions of fuel burning emissions units, e.g., "the future actual emissions from the Project-affected fuel burning units will be less than or equal to the values represented in the Application," this comment is not responsive to Denial Point 7. As discussed, this deficiency involves the potential emissions of these units, not their actual emissions.

p. 2-4, simply states that, "USS Granite City is also requesting revision/elimination of gaseous fuel usage limits for project-affected combustion units." The Application proceeds to explain that the shutdowns of the two by-product coke oven batteries and ten of the twelve boilers at the facility, "... have greatly reduced the emissions from fuel combustion in project-affected emission units and obviate the need to preserve limits to restrict PTE (potential to emit) of the remaining units." However, the Application does not actually explain or show how these actions have obviated the need for the revisions to Permit 95010001 to continue to limit fuel usage and emissions of Project-affected fuel burning units. That is, the Application does not provide information for the potential emissions of relevant pollutants from the Project-affected fuel burning units, i.e., units other than the ten boilers that are now shutdown, with use of only BFG and natural gas, since COG is no longer available. In these circumstances, as the Application requests a particular revision to Permit 95010001 but does not provide support for such revision, it is appropriate that this deficiency in the Application be a reason for denial of the Application.[191]

This comment also does not show that the Application is not deficient as related to the four slab reheat furnaces and co-generation boiler at the facility that are not Project-affected fuel burning units. In this regard, however, the Illinois EPA does not claim in Denial Point 7 that the Application is deficient because the revised NSR applicability analyses for the Project do not address these units. Rather, the observation made in Denial Point 7 is that the Application may be deficient as it does not address the effects of the shutdown of the two by-product coke oven batteries on the operation and emissions of the four reheat furnaces that historically burned both COG and natural gas. Moreover, given the timing of the shutdown of the coke oven batteries and any resulting increase in the usage of natural gas by these reheat furnaces, the increases in emissions from the new co-generation boiler may be contemporaneous relative to any increases in emissions from the reheat furnaces. In summary, the Application does not show that requested revision to Permit 95010001 should not continue to include

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[191] As this comment broadly claims that it is the Illinois EPA's responsibility to draft a revised permit with conditions that the Illinois EPA judges to be suitable and appropriate, this comment does nothing to refute the proposed denial of the Application, as detailed in Denial Point 7. If anything, it supports this denial as the Application does not include information that would be needed to impose permit conditions in the requested revised permit that, in the judgment of the Illinois EPA, would be suitable and appropriate.

Moreover, if this general pronouncement concerning permit conditions were to actually reflect the authority given to the Illinois EPA to impose conditions on permits, the Illinois EPA would have the authority in the requested revision to Permit 95010001 to impose conditions to carry out the purposes of the Act without regard to information provided by US Steel in the Application.

limitations for fuel burning units at the facility, that now also address emissions of the four reheat furnaces, to ensure that the increased use of natural gas due to the shutdown of the coke oven batteries has not resulted in a major modification for NSR. The Application simply requests an increase in the permitted usage of natural gas and allowable emissions of the Project-affected fuel burning units.[192] As such, given this comment does not address this second aspect of Denial Point 7, this comment also does not show that the Application should not be denied.[193]

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[192] For example, as related to NOx emissions from use of fuels, the Application explains:

> The post-project emission caps for the project affected emissions units are developed by USS Granite City using the operating rates shown in Table 6-6. Other than the natural gas usage, which is proposed to increase, and the oil usage, which is proposed to be eliminated, these rates are unchanged from the operating rates in the permit [maximum annual rate or iron production, maximum annual rate of steel production, and maximum annual rate of generation/burning of BFG]. As previously noted in Section 5.3 [Post-Project PM and PM_{10} Emission Limitations], due to the 2015 shutdown of the Coke Plant, this application addresses [an] increase in the natural gas usage for the fuel burning units affected by the project and also addresses elimination of COG at the affected units.
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> Application, Section 6.3, Post-Project NOx Emissions Limitations, p. 6-6,

[193] In this comment, with respect to the broad claim that a permit applicant need not reflect in its application, "… a correct guess as to how the Illinois EPA will exercise its judgment," a further claim is made, "That this should be especially true where, as here, the Illinois EPA conveys its preliminary judgment, the applicant revises its permit application to be consistent with that representation, and then the Illinois EPA vacillates." It should first be noted that the Illinois EPA did not vacillate. Rather, when informally reviewing the March 2020 application, the Illinois EPA questioned whether, because of the shutdown of ten boilers at the facility, certain limitations for fuel burning units would still be necessary in the requested revision to Permit 95010001. Moreover, even if the Illinois EPA had vacillated, it would not act to shield the Application from denial.

By way of restatement, the deficiency in the Application being addressed here does not involve guesses for how the Illinois EPA will judge the Application. The deficiency involves the absence of relevant information that directly supports a request made by the Application. As US Steel was informed about an issue that is posed by its request for revision of Permit 95010001, US Steel could have substantively addressed this issue in the Application, as submitted in October 2022. In this regard the Application does claim that the elimination of COG and the shutdown of boilers eliminates the need for limits to restrict the potential emissions of the remaining units. However, this claim is not actually accompanied by data for the potential emissions of the "remaining units." This data was needed in the Application so that the validity of the claim and the request, which would possibly simplify one aspect of the revisions to Permit 95010001, could have been reviewed.

XIII. THE APPLICATION INCLUDES ALL INFORMATION NECESSARY FOR INTEGRATED PROCESSING UNDER THE CAAPP OR, IN THE ALTERNATIVE, ANY DEFICIENCIES ARE NOT A BASIS FOR DENYING THE APPLICATION (VARIOUS DENIAL POINTS)

A. Claimed Deficiencies in the Application As Related to Integrated Processing Under the CAAPP Do Not Form a Basis for Denying the Application

As correctly observed by Illinois EPA in the draft denial letter, in the Application, US Steel requests that the revision of Permit 95010001 be subjected to "integrated processing," as provided for by Subsections 39.5(13)(a) and (c)(v)of the Act. This would allow the requirements in the requested revision to Permit 95010001 to be incorporated into the facility's CAAPP permit using the CAAPP's process for administrative amendment.

Numerous deficiencies in the Application detailed in the Draft Denial Letter are claimed to be deficiencies only because of US Steel's request for integrated processing. US Steel does not agree with these deficiencies, as discussed in US Steel's Comments XIII.B through X.III.I, below. In addition, none of these deficiencies form a valid basis for denying the Application. Even if Illinois EPA were correct that these deficiencies would prevent the use of integrated processing, that would only provide a valid basis for denial of the request for integrated processing of the revised permit and associated revisions of the CAAPP permit.

This comment does not show that the Application should not denied because of deficiencies in the Application that are a result of the Application's request that the revision of Permit 95010001 be subject to Integrated Processing.[194] In this regard, Integrated Processing affects the Application. It sets certain criteria for the contents of

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[194] The authorization for Integrated Processing of a construction permit application and an associated construction permit is provided in Subsections 39.5(13)(c) and (c)(v) of the Act. They provide that:

> c. For purposes of this Section [Section 39.5 of the Act] the term "administrative permit amendment" shall be defined as a permit revision that can accomplish one or more of the changes described below:
>
> ...
>
> v. Incorporates into the CAAPP permit the requirements from preconstruction review permits [construction permits] authorized under a USEPA-approved program, provided the program meets procedural and compliance requirements of this Section.

the revised permit that is sought by this Application. It also addresses the procedures by which this revised permit is processed. Both must be substantially equivalent to what would be required if a CAAPP permit were being issued, rather than a revised state construction permit/PSD approval. It is also noteworthy that public notice and opportunity for comment are not required for the administrative amendment of a CAAPP permit.[195] The actual administrative amendment of a CAAPP permit for a CAAPP source by the Illinois EPA once a construction permit that has been subject to Integrated Processing has been issued is a ministerial function. The Illinois EPA does not have the authority to reconsider the revisions to the CAAPP permit that are allowed by such construction permit.

The claim in this comment that the request for Integrated Processing made in the Application could be denied separately from the rest of the Application is unsupported. When reviewing an air pollution control construction permit application, the Act does not give the Illinois EPA the authority to divide an application, issuing a permit for part of an application and denying a permit for the rest. Rather, when taking final action on a construction permit application, Section 39(a) of the Act only provides for the Illinois EPA to either grant a permit or deny the application. For the Application, the Illinois EPA must necessarily consider the request for Integrated Processing as it is an element of the Application. The deficiencies in the Application related to Integrated Processing of the requested revision of Permit 95010001 are not of the type that are amenable to remedy by means of permit conditions.[196]

B. The Application Includes All Necessary Information Relating to General Provisions in the CAAPP Permit Governing Selection of Emission Factors (Denial Letter, Point 13)

In the draft denial letter, Attachment 1, the Illinois EPA correctly

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[195] For the administrative amendment of a CAAPP permit, the Illinois EPA must only provide a copy of the amended CAAPP permit to USEPA (Subsection 39.5(13)(a) of the Act). A source may implement the changes addressed by its request for an administrative amendment immediately upon submittal of the request (Subsection 39.5(13)(f) of the Act).

[196] The deficiencies in the Application related to Integrated Processing could have been readily disposed of if US Steel simply submitted a modification to the Application removing the request for Integrated Processing. Of course, any revisions to Permit 95010001 issued pursuant to such a modified application would not serve to also provide for changes to Permit 96030056, the CAAPP permit for the facility, as are ultimately desired. Integrated Processing of the Application is of benefit for both US Steel and the Illinois EPA. This is because it would enable the issues that are raised in US Steel's appeal of Permit 96030056, as it includes certain limitations established in Permit 95010001, to be directly addressed and potentially resolved by means of the revisions to Permit 95010001.

observes that Permit 95010001 does not specify how emissions are to be quantified for purposes of demonstrating ongoing compliance with annual emission limits set by this permit and that, in the absence of such provisions, the Illinois EPA imposed monitoring and recordkeeping requirements in the CAAPP permit for the facility sufficient to assure compliance with applicable emission limits as required by Subsection 39.5(7)(p) of the Act.

The Illinois EPA then asserts that the Application does not request revisions to Permit 95010001 "that would enable revisions to the CAAPP permit for the facility, Permit 96030056, to be made by administrative amendment to allow prescribed emission factors to be used to determine ongoing emissions of certain units." However, in the Application, US Steel generally requested that the requested revision to Permit 95010001 be subjected to "integrated processing." This requires the Illinois EPA to process the Application and draft any revised permit using a program that "meets procedural and compliance requirements substantially equivalent to those" imposed in the CAAPP program. Although this request was general, and the Application did not specify with precision the monitoring and recordkeeping requirements to be imposed in the revised construction permit and the amended CAAPP permit, that was appropriate. It is the responsibility of Illinois EPA to draft a permit with conditions it judges to be suitable and appropriate; the permit applicant has no obligation to reflect in the permit application a correct guess as to how the Illinois EPA will exercise its judgment regarding these matters. Inherent in the request for integrated processing is an implied request that Illinois EPA satisfy its mandate to draft a revised permit that includes the minimum elements of a CAAPP permit, including monitoring, reporting, and recordkeeping requirements sufficient to assure ongoing compliance with applicable emission limits and to remove or revise conflicting or redundant permit terms.

This comment appears to be directed at Denial Point 13 in the Draft Denial Letters. However, this comment does not respond to the actual deficiency in the Application identified in Denial Point 13. As such, this comment does not show that this denial point should not be a basis for the denial of the Application. In this regard, this denial point is not concerned with the detailed "compliance provisions" that would be included in any revision to Permit 95010001 to set forth how US Steel is to determine the emissions of various emission units on an ongoing basis to demonstrate continuous compliance with the annual emission limits set by the revised permit and other applicable emission standards. The Illinois EPA recognizes that compliance provisions, e.g., provisions for ongoing operational monitoring, emission testing, recordkeeping, and reporting, are usually developed by the Illinois EPA during the drafting of a construction permit, with consideration given to relevant information provided in a permit application for, e.g., the

operational monitoring and recordkeeping, related to compliance that a source is currently conducting for emission units and control devices.[197] Moreover, as the Application proposes that Permit 95010001 be revised to prescribe the emission factors that are to be used for certain units, the Application does not address the nature of the compliance procedures that are expected to then be required for such units.[198]

The deficiency in the Application addressed by Denial Point 13 relates to a specific provision currently in Permit 96030056, the CAAPP permit for the facility. This provision, CAAPP Condition 5.13, sets forth the approach that must generally be used to determine compliance with emission limits for process units set by Permit 95010001. As explained in Denial Point 13, "The procedures that were established in the current CAAPP permit do not provide for use of established emission factors. Rather, the CAAPP permit generally requires US Steet to use 'appropriate emission factor,' i.e., emission factors that do not understate emissions, with the primary responsibility for the appropriateness of the factors that are used placed on US Steel." Accordingly, as the Application requests that the revision to Permit 95010001 prescribe use of specific emission factors and an emission determination methodology for certain Project-affected process emission units, it is appropriate for US Steel to also propose revisions to Permit 95010001 to facilitate the actual use of such factors and procedures as Permit 96030056 currently does not provide for their use.

Moreover, as noted in this denial point, CAAPP Condition 5.13, is currently the subject of an appeal to the Board, PCB 2013-053. As one objective of US Steel for the revisions of Permit 95010001 requested by the Application is to facilitate the resolution of this appeal, it is certainly appropriate for US Steel in the Application to contemplate and directly address revisions to Permit 95010001 that it considers are

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[197] The Illinois EPA has the primary role in developing the compliance provisions in Illinois' air pollution control permits. This is because these provisions are largely within the Illinois EPA's area of expertise. When drafting a new, renewed or revised permit, the Illinois EPA also develops the compliance provisions considering the provisions in permits that have been issued for similar or comparable units and control systems. However, such provisions, are ideally developed with timely input and suggestions by the permit applicant based on its review of a working draft of the permit prepared by the Illinois EPA.

[198] For example, for the units for which emissions factors would be prescribed, is it expected that the associated compliance procedures would only entail recordkeeping for monthly and annual emissions? Alternatively, would the associated compliance procedures for such units be expected to also include requirement for operational monitoring and/or recordkeeping to verify that such units are being operated in a manner such that the prescribed emissions continue to be appropriate?

needed to resolve this appeal. It would be unsound for the Illinois EPA to simply proceed with revisions to Permit 95010001 that prescribe use of specific emission factors for certain units and emissions points, as requested by the Application, if the actual implementation of such revisions would not be feasible given what is provided for by CAAPP Condition 5.13. In addition, as related to CAAPP Condition 5.13, the Illinois EPA should not have to make a guess as to the revisions related to this condition that US Steel might find acceptable. US Steel, not the Illinois EPA, has proposed that revised Permit 95010001 prescribe certain emission factors, which is what results in the need for related changes relative to CAAPP Condition 5.13.

Finally, when reviewing the Application, it would be improper for the Illinois EPA to rely on the assertion made in this comment that, because the Application requests the revised permit be subject to Integrated Processing, the Application has by implication requested, "… that the Illinois EPA draft a revised permit that meets the minimum [emphasis added] elements of a CAAPP permit…."[199] At a fundamental level, as is confirmed by this comment, the Application, itself, does not request that the Illinois EPA prepare a revised permit that meets the minimum elements of a CAAPP permit, much less a revised permit that provides for compliance requirements that are substantially equivalent to those that would be provided pursuant to the CAAPP. As such, the Application does not show that the revision of Permit 95010001 requested by the Application would meet the criterion for issuance of a construction permit in Subsection 39(a) of the Act. As a general matter, for a project that has been completed, when an application is submitted for revision(s) to the construction permit for the project, it is essential that the application clearly address the revisions to the permit that are being requested. This is because such an application usually does not reopen the entire permit for review by the Illinois EPA.[200] The implied request for the revisions to Permit

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[199] For convenience, the entirety of relevant part of this comment is provided below:

> Inherent in the request for integrated processing is an implied request that Illinois EPA satisfy its mandate to draft a revised permit that includes the minimum elements of a CAAPP permit, including monitoring, reporting, and recordkeeping requirements sufficient to assure ongoing compliance with applicable emission limits and to remove or revise conflicting or redundant permit terms.

[200] Applications for revisions to a construction permit for a project must be clear and specific as to the revisions to the permit that are being requested. The review by the Illinois EPA of such an application is generally bounded by the revisions that are requested and the consequences or implications of the requested revisions for other provisions in the permit.* The application does not automatically act to reopen the entirety of a project for review by the Illinois EPA as if a new application was being submitted for the project. This

95010001 posited by this comment does not even attempt to identify the implications or consequences of the requested revisions to Permit 95010001 for the provisions currently in the CAAPP permit, Permit 96030056. Finally, the "implied request" that this comment asserts is inherent in the Application is not set forth in sufficient detail to conclude that the request extends to all of the requirements that might be found necessary for the revision to Permit 95010001 to provide for compliance requirements that are substantially equivalent to those that would be required by the CAAPP. Indeed, would the implied request be defective simply because it only extends to "minimum" requirements? This word places a restriction on the requirements that the Application requests be addressed by the revisions of Permit 95010001 that is not present in the CAAPP when it establishes the criteria that a construction permit must satisfy to qualify as having been subject to Integrated Processing.[201, 202]

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appropriately recognizes and addresses the fact that the applicant for a revised permit already holds a construction permit for the project. Some or many of the provisions in that permit may address units for which construction has been completed that would not be involved in or affected by the requested revisions to the permit.

* The requested revisions to Permit 95010001 have implications and consequences that extend beyond this permit, itself, to the provisions of the current CAAPP permit. As Integrated Processing is requested for the revised permit, those implications and consequence must be confronted in the Application.

[201] It also appears that the implied request is defective because, when considered as a whole, it indicates that US Steel has requested that the revisions to Permit 95010001 provide for establishment in Permit 96030056 of appropriate compliance procedures, e.g., provisions for monitoring and recordkeeping. However, for Integrated Processing, the Act requires that a construction permit provide for compliance requirements that are substantially equivalent to those that would be required by the CAAPP. The comment does not use the statutory term. As examples of compliance procedures, the comment only describes activities that might be considered "periodic monitoring" under the CAAPP. The meaning of "compliance requirements" is necessarily broader than "compliance procedures." The CAAPP mandates that CAAPP permits include requirements in addition to compliance procedures or periodic monitoring. For example, CAAPP permits must accurately identify and address the emission units at a facility. CAAPP permits must also accurately identify and address the emission standards that apply to the different units and activities at a facility.

[202] It is also worrisome that the assertion made in this comment is contrary to a statement made in US Steel's Comment XIII.I, as provided below. That comment responds to Denial Point 17, which finds the Application to be deficient because US Steel has not provided information in the Application or in a separate application to amend the CAAPP permit that identifies emission units that are now permanently shut down but are still included in the current CAAPP permit. In particular, the two by-product recovery coke oven batteries at the facility and associated by-product recovery equipment, which ceased operating in 2015, are still identified in Permit 96030056.

C. The Application Includes All Required Information In Conjunction with the Request for Changes to Emission Point Naming (Denial Point 12 – Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy))

In the draft denial letter, Attachment 1, the Illinois EPA correctly observes that the Application asks that the requested revision to Permit 95010001 refer to the unit currently identified as the "Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy)" be renamed and identified as "Baghouse 2 for Argon Stirring and Ladle Metallurgy Facility." The Illinois EPA then asserts that the Application is deficient for the following reasons:

> However, the application does not actually identify the specific units that would be addressed by the proposed new term. In this regard, the application is not accompanied by an itemized list of the equipment and activities that would be covered by this new term or a diagram that identifies this equipment and activities. US Steel's request also does not explain how the requested revision to Permit 95010001 would do what has generally been requested as the proposed new term would refer to a "Material Handling Tripper." As the 2022 application requests changes to terminology in Permit 95010001, the changes should act to better identify the emissions units that would be addressed, improving the specificity and clarity of the revised permit.[Footnoted 51, 52]
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> [Footnoted 51] For example, the proposed new term would not make clear that the basic oxygen furnace shop actually has two ladle stirring stations and one ladle metallurgy furnace, all served by Baghouse 2.

By this statement, US Steel effectively refuses to provide such information. The Illinois EPA considers such information would be necessary to assure that the amendment of the CAAPP permit that would be authorized by Integrated Processing of the requested revised Permit 95010001 would provide for compliance requirements that are substantially equivalent to those provided for by the CAAPP. In this regard, US Steel's pending application for renewal of the CAAPP permit includes units that are now shut down. Subsection 39.5(5)(i) of the Act requires that when a source becomes aware that it has submitted incorrect information in a CAAPP application, it shall submit correct information to the Illinois EPA.

> The Application was submitted for the narrow and specific purpose of addressing the outstanding appeal items and the underlying PSD and NaNSR applicability evaluations relating to the Project implemented by National Steel.
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> US Steel's Comments of January 2024, p. 37, Comment XIII.I

(Footnote) 52 The requested change to the terminology for these emissions unit(s) is also problematic as it would refer to a control device, Baghouse 2, rather than to the equipment or activities that generate emissions. Applied literally, the proposed term would only address captured emissions; it would not address the uncaptured emissions, which elude capture for control by the baghouse.

The deficiency alleged in the subject denial point is without merit. As an initial matter, US Steel has not characterized the listed item as emissions units, regardless of the naming convention. It is an emission point, and that is how US Steel characterized it in the Application. Permit 95010001 limits both its emissions of both PM and PM_{10} to 0.00715 pounds/ton of steel and 12.8 tons/year, which limitations apply solely to the emission point and not separately to "the equipment or activities that generate emissions." Any uncaptured emissions from that equipment or activities occur through the BOF Shop Roof Monitor. Those emissions are subject to the separate emission limitations for the item referenced as "BOF Roof Monitor." This is consistent with the approach originally taken in Permit 95010001, in which the limitations for the particulate emission of casthouse and BOFs apply to emission points. For example, for the BOFs, separate limitations are set for the particulate emissions of the "BOF ESP Stack (charge, refine, tap) and the "BOF Roof Monitor."

A similar change to the item naming was made by Illinois EPA in 2013 when issuing the CAAPP permit, Permit 96030056. In CAAPP Condition 7.5.6(g), the units to which these particulate emission limits, i.e., 0.00715 pounds/ton and 12.8 tons/year, apply are identified as "Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy Baghouse #2), rather than "Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy)," as in Permit 95010001. The list of the equipment and activities that would be covered by this proposed new term, *i.e.*, "Baghouse 2 for Argon Stirring and Ladle Metallurgy Facility," is similar to the list of the equipment and activities that are currently covered by the term "Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy)" in Permit 95010001 and by the term "Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy Baghouse #2)" in Permit 96030056. US Steel reasonably concluded that Illinois EPA would understand this fact because the Application requested and enumerated only discrete changes to Permit 95010001, none of which related to reconfiguring the equipment and activities venting to this emission point.

Notwithstanding the above, it remains the responsibility of Illinois EPA to draft a permit with conditions it judges to be suitable and appropriate. The assertion in this denial point that, as the Application requests changes to current terminology in Permit

95010001, "…the changes should act to better identify the emission units that would be addressed, improving the specificity and clarity of the revised permit," is unfounded. If the Illinois EPA wishes to revise the permit to better identify the emissions units that would be addressed by particular emission limitations, Illinois EPA has the authority and discretion to make such revisions.

Finally, the Illinois EPA does not identify any provision of the Act or the Illinois Code requiring that a straightforward request for revision of the name of an emission point be accompanied by a list of the equipment and activities venting to that emission point, nor does the Illinois EPA point to even an application form or guidance document suggesting that such information be provided. A permit applicant has no obligation to reflect in its application a correct guess as to how the Illinois EPA will exercise its judgment regarding these matters. Of course, Illinois EPA retains authority, pursuant to 35 IAC 201.152, to request further information documentation in conjunction with a permit application, but that was not done here.

This comment does not show that the Application should not be denied. The "renaming" of the subject units that is requested by the Application is not trivial. It does not involve a change to reflect the names or designations now used by US Steel for units or equipment.[203] Rather, a revision to Permit 95010001 is requested that would entail a change to the units to which certain emission limitations in this permit currently apply. However, the Application does not address the implications of the requested change as to the units for which these limitations would then apply. An applicant for an air pollution control permit has a general responsibility to submit an application that clearly identifies the emission units and control devices that are the subject of the application and to provide information for their emissions.[204]

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[203] For example, US Steel has changed the name of the new boiler constructed pursuant to Permit 06070023. In this permit, this boiler is referred to as the "Cogeneration Boiler." In the subsequent CAAPP application for the facility, this boiler is referred to as "Power Boiler 1." The applicability of the emissions limitations established for this boiler by Permit 06070023 is not altered by referring to this boiler as Power Boiler 1 in Permit 96030056, the CAAPP permit for the facility.

[204] US Steel's request for renaming of the subject units is not accompanied by a listing of units or process equipment or a process flow diagram that reasonably provides specific information as to the units or process equipment that are actually the subject of the request. It may be reasonable for an applicant when quantifying emissions to further refine the data that is provided, e.g., the emissions from use of different fuels or the captured emissions from units, which occur from the control device(s), and the uncaptured emissions from units. However, this does not alter the fundamental obligation of a permit

The Illinois EPA cannot issue a revision to Permit 95010001 absent information in the Application for the units served by a particular control device, based merely upon the opinion or belief of the Illinois EPA as to the units at the Granite City Works that such control device serves.

In particular, the change in naming of these units requested by the Application is not a straightforward request. The change would directly alter the applicability of the current emissions limitations. In Permit 95010001, the subject particulate emissions limitations apply to the "Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy)," (Permit 95010001, Condition 20 and Table 3). If the identification of the operations to which these limitations apply were changed by renaming as requested, these limitations would apply to a particular baghouse. The limitations would not apply to emission units served by that baghouse and would no longer apply to or address all emissions of the subject units. Moreover, as this comment indicates that uncaptured particulate emissions from these units, which would not be addressed with the requested change to the permit, occur through the BOF shop roof monitor, this comment suggests, if anything, another reason to deny the Application.[205] This is because, for the roof monitor on the BOF shop, the Application only accounts for particulate emissions from the BOFs. The Application does not account for the uncaptured emissions of the subject units, which this comment indicates also occur through the roof monitor.[206]

As a general matter, this denial point reflects the care that should be exercised when making changes to the naming or identification of the emission units and/or emission points to which the emission limitations set by a permit apply. US Steel, not the Illinois EPA, has proposed the renaming of these units. The request does not involve a simple change

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applicant to clearly identify the units whose emissions are being addressed in its application.

[205] In fact, the Application does not suggest that these limitations apply to an emission point, rather than to emission units. When requesting that these units be renamed, the Application refers to them as emission units or an "operation," (Application, Section 11.1.2, p. 11-2).

[206] Incidentally, the position taken in this comment with respect to the subject emission units is inconsistent with the position taken in the Application with respect to the casthouse and BOFs. For those units, the Application requests that the revision of Permit 95010001 no longer set separate emission limitations for the various emissions points from the units. The Application requests that revised Permit 9501001 prescribe emission factors for uncaptured emissions that occur through the associated roof monitors. For the units addressed by Denial Point 12, the comment simply claims, without support, that the current emission limitations in Permit 95010001 only address emissions of these units that occur through one emission point, i.e., the captured emissions through the stack of a baghouse.

to reflect the names by which these units are now known. As such, it was incumbent for US Steel to adequately support its request, which it did not do. Accordingly, the Application does not show that the requested revision of Permit 95010001 would comply with applicable requirements if these units were renamed as requested by the Application.

Finally, this comment does not support its other claims that the deficiency in the Application addressed by Denial Point 12 relative to the Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy) is without merit or would be improper. The Illinois EPA prepared the Revised Draft Denial Letter to better identify the provisions of the Act and the Illinois Code that might be violated if a revision to Permit 95010001 were issued as requested by the Application. The comment does not address the provisions that were identified for this denial point to show that they do not provide a valid basis for denial of the Application. As this comment observes that the Illinois EPA could have requested relevant supporting information without denying the Application, this fact does not preclude denial of the Application, as explained in General Response 1. As also addressed in General Response 1, 35 IAC 201.152 addresses certain information that is to be included in a permit application. It does not address all information that must be included in an application if the requested permit is to be issued. 35 IAC 201.152 also does not address the process by which the Illinois EPA may request supplemental information be provided for an application after it has been deemed to be administratively complete. Lastly, as also addressed in General Response 1, the historic naming or designations of emissions units or emission points used by the Illinois EPA in prior permitting is not relevant for whether the requested change should be found acceptable. US Steel's expectations for the Illinois EPA's reaction to this requested change are also not relevant to the merits of this denial point.

D. The Application Includes All Required Information Relating to the Steel Slag Removal Station and the Handling Operation for Raw Materials Used in Ladle Metallurgy (Denial Point 12 – Deslagging Station and Material HS (Handling System))

In the draft denial letter, Attachment 1, the Illinois EPA observes that the Application "does not request any revisions to Permit 95010001 with respect to the Deslagging Station and Material HS. These emissions units are currently addressed in Permit 95010001 with Continuous Casting Operations (Permit 95010001, Condition 20 and Table 3.)" Although US Steel did not request any revisions to Permit 95010001 with respect to these units that it considers to be substantive, the Application did request that the units to which these limitations apply be renamed as "Baghouse 1 for Material Handling." This revision was

suggested for two reasons. First, applying these limitations based on the emission point rather than the emitting activity is more consistent with the naming convention generally used in Permit 95010001, as discussed in US Steel's Comment XIII.C, above. Second, the historical naming of this item is misleading, as this baghouse does not serve to control emissions from any slag removal operation; the steel slag removal station at the facility is not served by any capture system or baghouse.

The requested renaming is consistent with the naming used by Illinois EPA in Permit 96030056, Attachment 3, "Current Emission Factors for Certain Emission Limits," which refers to this item as "Baghouse #1." CAAPP Conditions 7.1.6(b)(i) and 7.6.6(a) in Permit 96030056, respectively, limit emissions of the "Material HS and Deslagging Station" and the "Deslagging Station and associated Material Handling System. (Permit 96030056 addresses these units both in Part 7.1 of the permit as a Material Handling Operation and in Part 7.6 as a Continuous Casting Operation.)[207]

As related to the steel slag removal station (i.e., the activity identified as "deslagging station" in past permitting), The Illinois EPA asserts that the Application is deficient because it "does not explain why steel deslagging should not appropriately be categorized as slag skimming and addressed with the other slag skimming operations in the BOF shop." US Steel has claimed neither that the steel slag removal station should not appropriately be categorized as slag skimming nor that it should not be addressed with the other slag skimming operations in the BOF shop. US Steel was under no obligation to offer, as part of the Application or otherwise, a justification for a claim that it was not making.

In addition, the Illinois EPA states that the Application "does not request revisions to Permit 95010001 to facilitate amendment of the CAAPP permit to appropriately address the emissions of this deslagging station and the associated material handling system." The Illinois EPA does not identify any provision of the Act or the Illinois Code requiring that an application for a construction permit revision, even one for which Integrated Processing is requested, include a request for revisions "to facilitate amendment of the CAAPP permit" for the facility. It is the responsibility of Illinois EPA to draft both a construction permit and a CAAPP permit with conditions it judges to be suitable and appropriate. A permit applicant has no obligation to reflect in an application to correctly guess as to what revisions to one permit would be viewed by the Illinois EPA as facilitating

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[207] In CAAPP Condition 7.1.2, "List of Emission Units and Air Pollution Control Equipment," the use of Baghouse #1 is indicated for control of emissions of the LMF Conveyors and Storage Bins.

revisions to another permit.

This comment does not show that the Application should not be denied for reasons as detailed in Denial Point 12 with respect to the "Deslagging Station and Material HS." As an introductory matter, the Application does not actually appear to request that these units be renamed, as claimed in this comment.[208] Then, as the comment claims that the Application requests that these units be renamed "Baghouse 1 for Material Handling," the comment, itself, acknowledges a flaw in this request since the emissions of the Deslagging Stations are not controlled by Baghouse #1 (or any other baghouse).[209] Indeed, if units were to be renamed, as this comment claims is requested by the Application, it appears that the Application requests that revised

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[208] If, in fact, the Application did request that the Deslagging Station and Material HS, be renamed as is claimed by this comment without any reference to the relevant page(s) in the Application, the Illinois EPA did not find this request. Moreover, the approach taken in the Application for the renaming of the Deslagging Station and Material HS would be distinctly different from the approach taken for the Argon Stirring Station and Material Handling Tripper. For the Argon Stirring Station and Material Handling Tripper, the Application requested renaming of these units in three places in the Application, i.e., Section 5.5.2, "Basic Oxygen Furnace Shop Operations;" in Section 5.5, "Requested Changes to Permit Terms Relating to PM and PM_{10} Emissions;" and in Section 11.1.2, "National Emissions Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Part 61 and 63)" in Section 11, "Regulatory Applicability Review." In Section 11.1.2, the Application explains that, "… for clarity and consistency with these federal rule requirements, USS Granite City requests that that this operation be renamed as the 'Baghouse 2 for Argon Stirring and Ladle Metallurgy Facility' and grouped with the BOF Shop Operations." However, comparable requests are not made in the Application for the Deslagging Station and Material HS.*

* For the Deslagging Station, there is also a similar issue as to whether this station is subject to requirements of 40 CFR 63 Subpart FFFFF, either as it is a "skimming station" or "ladle metallurgy" as defined by 40 CFR 63.7852. That is, is the deslagging Station either a location in a BOF Shop, prior to casting, where slag is removed from the top of the molten metal or a secondary steelmaking process that is typically performed in a ladle after refining in a BOF to adjust or amend the chemical or mechanical properties of steel. The Application does not include a description or other information for the Deslagging Station showing that it is not an affected unit under 40 CFR 63 Subpart FFFFF, such that revised Permit 95010001 need not address requirements of these rules for this unit. This determination is important. If this unit is subject to these rules, the revision of Permit 95010001 must consider the relevant compliance requirements imposed on this unit by these rules.

[209] This illustrates the deficiency that can result if emission limitations are set for control devices without appropriately addressing all emissions of the units that are being controlled, as is discussed above in response to US Steel's Comment XIII.C, concerning the Argon Stirring Station and Material Handling Tripper.

Permit 95010001 not even address the existing Deslagging Station and its emissions.[210]

The deficiencies in the Application with respect to the Deslagging Station and Material HS are similar to those for the "Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy)," as discussed above in response to US Steel's Comment XIII.C. However, the deficiencies in the Application related to the Deslagging Station and Material HS are more extensive. The Application requests that revised Permit 95010001 address units engaged in handling of raw materials as a separate category of operations, as was done in the CAAPP permit, Permit 96030056. The shifting of the Argon Stirring Station and Material Handling Tripper from Continuous Casting Operations to BOF Shop Operations would simply entail moving these units from one section of Permit 95010001 to another section.[211] Moving the Material HS that is currently addressed with the Deslagging Station would be more involved.[212]

The overarching deficiency in the Application with respect to the Deslagging Station and Material HS is inconsistency in the treatment of these units and the treatment of the Argon Stirring Station and Material Handling Tripper. For the latter units, the Application requests revisions to Permit 95010001 to address issues posed by the conditions currently in this permit that address these units. Most notably, the Application acknowledges applicability of the requirements of 40 CFR 63 Subpart FFFFF. It requests that these units be addressed in the revised permit as BOF Shop Operations rather than Continuous Casting Operations. However, as revisions to Permit 95010001 are not

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[210] Neither Section 5.5.2 nor Section 5.5.3 of the Application list the Deslagging Station as a unit that would be addressed by, respectively, either the proposed emissions cap for the "Basic Oxygen Furnace Shop Operations" or the proposed cap for the "Continuous Casting Operations." Prescribed emission factors are also not proposed for the Deslagging Station.

[211] The Argon Stirring Station or Stations at the facility are directly subject to requirements of the NESHAP, 40 CFR 63 Subpart FFFFF as they are BOF Shop Ancillary Operations. As such, compliance with the requirements of 40 CFR 63 Subpart FFFFF is also required for the Material Handling Tripper as its particulate emissions are being controlled by a baghouse, Baghouse #2, that also controls NESHAP-subject units.

[212] Moving the Material HS that is currently combined with the Deslagging Station would be more involved as it would entail allocating the current permitted emissions between these units. The allocation for the Material HS would then be addressed in the new section of Permit 95010001 for units engaged in handling or processing of raw materials. The emissions from the Deslagging Station would either stay with the section for Continuous Casting Operations or be moved to the section for BOF Shop Operations. Finally, since emission testing is not feasible for the Deslagging Station, as it is not served by an add-on control device, it is expected that prescribed emission factors would need to be developed and justified for this unit.

requested for the current conditions in Permit 95010001 for the Deslagging Station and Material HS, the implication is that these conditions do not pose issues. As already discussed, this is not the case. The issues that are posed by the current conditions for the Deslagging Station and Material HS and the resolution of these issues would be more involved than resolution of the issues posed by the conditions for the Argon Stirring Station and Material Handling Tripper.

Finally, this comment does not support its other claims that the deficiency in the Application addressed by Denial Point 12 relative to Deslagging Station and Material HS is without merit or would be improper. The Illinois EPA prepared the Revised Draft Denial Letter to better identify the provisions of the Act and the Illinois Code that might be violated if a revision to Permit 95010001 were issued as requested by the Application. The comment does not directly address the various provisions that were identified for this denial point to show that they do not provide a valid basis for denial of the Application. As this comment specifically claims that denial based on this denial point would be improper because the Illinois EPA has not identified a provision that requires this Application to, "include a request for revisions 'to facilitate amendment of the CAAPP permit' for the facility," it ignores the implications of the Application's request for Integrated Processing for the contents of the Application. The amendment to the Permit 96030056 that would be authorized by revised Permit 95010001 must provide for compliance requirements that are substantially equivalent to those that would be required by the CAAPP. The Application proposes that the Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy), that are BOF Shop Operations be transferred from the provisions of Permit 95010001 for Continuous Casting Operations to the provisions for BOF Shop Operations, so the emission standards that apply to those units would be properly addressed. By this request, US Steel directly poses the related question whether other operations, i.e., Deslagging Station and Material HS, should also be transferred from Continuous Casting Operations to BOF Shop Operations.

E. The Application Includes All Required Information Relating to the Ladle Drying Preheaters (Denial Point 12 – Ladle Drying/Preheating)

In the draft denial letter, Attachment 1, with respect to the Ladle Drying Preheaters, Illinois EPA claims that the Application is deficient because US Steel "does not request any changes to Permit 95010001 to maintain consistency with the approach to these units in the CAAPP permit."

This assertion is without merit. The Illinois EPA does not identify any

provision of the Act or the Illinois Code requiring that any application for a construction permit revision, even one for which Integrated Processing is requested, include a request for revisions "to maintain consistency with the approach to these units in the CAAPP permit" for the facility. It is the responsibility of Illinois EPA to draft both a construction permit and a CAAPP permit with conditions that it judges to be suitable and appropriate. A permit applicant has no obligation to reflect in its permit application a correct guess as to what revisions to one permit would be viewed by the Illinois EPA as maintaining consistency with another permit.

This comment does not show that the Application should not be denied based on Denial Point 12 as it addresses a deficiency in the Application with respect to Ladle Drying/Preheating. This comment ignores the fact that the Application requests a revision to permit 95010001 to increase the emissions of NOx for which the BOFs are permitted.[213] In Section 6.5.2, the Application requests changes under Table 2 of Permit 95010001, proposing new Condition 18(b), which would provide that, "NOx emissions from the BOF ESP and BOF baghouse stacks shall not exceed 400 tons/year on a monthly rolling 12 month-total." However, Section 6.5.2 does not propose any changes to Condition 18 and Table 5 of Permit 95010001 as they currently limit NOx emissions of the BOF Shop to 70 tons/year.[214]

The absence of a request in Section 6.5.2 of the Application that new "Condition 18(b)" be accompanied by removal of the limit of 70 tons/year from Permit 95010001 was almost certainly an oversight. The more serious issue for the Application is that Permit 96030056 currently limits the NOx emissions of the BOF shop to 70 tons/year (CAAPP Condition 7.5.6(b)). Ladle Drying/Preheating, which physically takes place in the BOF Shop, is identified as a Basic Oxygen Process (CAAPP Condition 7.5.2, "List of Emission Units and Pollution Control Equipment"). As such, on its face, Permit 96030056 restricts the combined NOx emissions of Ladle Drying/Preheating and the BOFs, with an overall limit of 70 tons/year.[215] The Application does not propose revisions to relevant conditions in Permit 96030056. In the absence of appropriate changes to those conditions, those conditions would be an

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[213] Permit 95010001 currently limits annual NOx emissions of the BOFs to 69.63 ton/year (Condition 18, Table 2). The annual NOx emissions of the BOF Shop are limited to 70 tons/year (Condition 18 and Table 5).

[214] It should be noted that the Application has also been denied as related to this proposed limitation for the NOx emissions of the BOFs, 400 tons/year, because the Application does not address uncaptured NOx emissions of the BOFs, only the captured NOx emissions of the BOFs. This is addressed in Denial Point 4, for which US Steel submitted its Comment X, as discussed in this Responsiveness Summary.

[215] Ladle Dryer/Preheaters are also addressed elsewhere in Permit 96030056 with other Project-affected fuel burning units.

impediment to amending Permit 96030056 to reflect the increase in permitted NOx emissions of the BOFs as proposed by the Application.[216] This deficiency would not have been present if the Application had proposed revisions to Permit 95010001 that, by means of Integrated Processing, would have enabled appropriate changes to be made to Permit 96030056 by administrative amendment so that Ladle Drying/Preheating would not be addressed as a Basic Oxygen Process.

Finally, this comment does not support its other claims that the deficiency in the Application addressed by Denial Point 12 relative to Ladle Drying/Preheating are without merit or would be improper. The Illinois EPA prepared the Revised Draft Denial Letter to better identify the provisions of the Act and the Illinois Code that might be violated if a revision to Permit 95010001 were issued as requested by the Application. This comment does not directly address the provisions that were identified for this denial point to show that they do not provide a valid basis for denial of the Application. As this comment specifically claims that denial based on this denial point would be improper because the Illinois EPA has not identified a provision that requires this application to maintain consistency with the approach to the emission units in the CAAPP permit, this claim misconstrues the basis of the denial. The Application has been denied because it does not show that the requested revised permit would meet substantive statutory and regulatory requirements. As related to Ladle Drying/Preheating, the Application does not consider the implications of relevant conditions currently in Permit 96030056 for the requested revised permit. That is, the Application does not show that the revisions to Permit 96030056 for Ladle Dryer/Preheaters that would be authorized by the administrative amendment of revised Permit 95010001, as requested by the Application, would provide for compliance requirements for these units that are substantially equivalent to what would be provided for by the CAAPP. In this regard, the Application requests that the Argon and Material Handling Tripper (Ladle Metallurgy) be moved from the provisions of Permit 95010001 for Continuous Casting Operations to the provisions for BOF Shop Operations, so they would be addressed with other BOF Shop Ancillary Operations. This directly raises the question for the Ladle Drying/Preheating whether it is also properly addressed in the provisions of Permit 96030056 for BOF Shop Operations. Alternatively,

[216] For example, the Application does not propose that revised Permit 95010001 set an overall cap for the NOx emissions of the BOFs and the NOx emissions from Ladle Drying/Preheating. Alternatively, the Application does not propose changes to make clear that Ladle Drying/Preheating should only be addressed as it involves Project-affected fuel burning units and not as a Basic Oxygen Process.

as seems more likely, is Permit 96030056 flawed as it addresses Ladle Drying/Preheating as a BOF Shop Operation?[217]

F. The Application Includes All Required Information Related to Identification of the Version of the CAAPP Permit That Would Be Administratively Amended Pursuant to Integrated Processing of the Requested Revised Permit Application (Denial Point 14)

In the draft denial letter, Attachment 1, the Illinois EPA explains that the Application is deficient because it "does not identify the version of the Clean Air Act Permit Program (CAAPP) permit for the facility, Permit 96030056, that would be eligible for administrative amendment pursuant to the Integrated Processing of the revisions to Permit 95010001 that are requested." Relatedly, Illinois EPA asserts that US Steel "has not initiated action for the Illinois EPA to actually issue an amended CAAPP permit with changes as authorized by Permit 11050006."

These assertions are without merit. US Steel has initiated the process of incorporating the provisions of Construction Permit 11050006 into Permit 96030056, the CAAPP permit for the facility. In November 2013, US Steel applied for renewal of this permit for the facility. In that application, US Steel expressly requested that Illinois EPA incorporate requirements from Permit 11050006 into the CAAPP permit and noted that "the Basic Oxygen Furnace process described in the CAAPP permit Condition 7.5 needs to be updated with the new secondary baghouse added as part of the Emission Reduction Project (Construction Permit 11050006)." (CAAPP Renewal Application, p. 2-1.) Pursuant to Subsection 39.5(5)(f) of the Act, that application was subsequently deemed complete by operation of law.

In addition, the Illinois EPA does not identify any provision of the Act or the Illinois Code requiring that any application for a construction permit revision for which integrated processing is requested to specify the "version" of the CAAPP permit that would be amended. It is solely the responsibility of Illinois EPA to make revisions and amendments to CAAPP permits in conformance with applicable rules and laws.

This comment sidesteps the deficiency that is addressed in Denial Point 14. As such, this comment does not show that it was improper to deny the Application for the reason set forth in this denial point. The deficiency

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[217] **It is noteworthy that, as Denial Point 12 calls attention to certain conditions in the CAAPP permit that address Ladle Drying/Preheating, the concern is not that the Application does not request revisions to Permit 95010001 that would be consistent with the approach to these units taken by the CAAPP permit. Rather, the concern is the converse. The approach to these units taken in the Application should not be the approach taken by the current CAAPP permit. That approach is problematic and would be an impediment to effectuating changes requested to Permit 95010001.**

arises because a construction permit that was processed with Integrated Processing, Permit 11050006, has already been issued to US Steel, thereby authorizing certain revisions to Permit 96030056 to be made by administrative amendment. However, US Steel has never submitted an application to the Illinois EPA for the administrative amendment to Permit 96030056 that is authorized by Permit 11050006, leading to the actual issuance of an amended CAAPP permit. Thus, for the purpose of the request in the Application that the revision to Permit 95010001 be subject to Integrated Processing, there are effectively two versions of Permit 96030056. One is Permit 96030056 as currently in effect. The other is an "amended" version of this permit that would take effect if and when US Steel submits its application to the Illinois EPA for administrative amendment of 96030056, as has been provided for by Permit 11050006. This would not be the case if US Steel simply submitted an application for the administrative amendment to Permit 96030056 that is already authorized by Permit 11050006.

Simply as related to the physical drafting of the revisions to Permit 95010001 that are requested, the possibly for there to be two different versions of Permit 96030056 obstructs the preparation of a revised version of Permit 95010001. The revision of Permit 95010001 requested by the Application must be crafted so that the amendments to Permit 96030056 that it authorizes can take place seamlessly. The subsequent amendment of Permit 96030056 would be a ministerial function by the Illinois EPA. The nature and location of the specific changes to Permit 96030056 that are being authorized must all be decided upon and laid out during the preparation and issuance of revised Permit 95010001. To do this, the version of Permit 96030056 that would be revised must be known. If not, the revised version of Permit 95010001 could be prepared relative to one version of Permit 96030056 but the other version of Permit 96030056 would have become effective when the administrative amendment of Permit 96030056 is actually submitted.

The forethought and advance planning that are needed when preparing a revised version of Permit 95010001 are critical for the procedures that are followed for this revised permit. The future changes to the Permit 96030056 that are authorized by means of the revised version of Permit 95010001 must be clearly set forth. This is essential so that the public and USEPA may review and comment on the planned changes, as reflected in draft and proposed versions of the revised permit before a revised version of Permit 95010001 is issued and becomes effective. This is because the public and USEPA will not subsequently have the opportunity to review and comment on the administrative amendment of Permit 96030056 that has been authorized.

As already explained, this comment does not respond to the deficiency detailed in Denial Point 14 to attempt to show that it is without merit. The submittal of an application for renewal of the CAAPP permit,

Permit 96030056, is not the submittal of an application for an administrative amendment of this permit.[218, 219] Moreover, Denial Point 14 does not suggest that the deficiency that it addresses necessitates updates to the pending application for renewal of Permit 96030056.

With respect to the other claims in this comment, they are without merit. Indeed, these claims illustrate how similar claims made elsewhere in US Steel's comments are erroneous or inane. US Steel ignores the fact that the Revised Draft Denial Letter does identify the statutory and regulatory basis for Denial Point 14. Notably, Subsection 39.5(13)(c)(v) of the Act is identified, which provides the requirements that a construction permit must satisfy to qualify as having been subject to Integrated Processing.[220] In this case, to accomplish this, it is essential for US Steel to deal with the administrative amendment to Permit 96030056 that is already authorized

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[218] The renewal of a CAAPP permit is addressed by Subsections 5, 7, 8, 9 and 10 of Section 39.5 of the Act. Among other things, a draft version of the renewed CAAPP permit must be made available to the public for review and comment, pursuant to Subsection 39.5(8); a proposed version of the renewed permit must then be provided to USEPA for its review and possible objection to the proposed permit, pursuant to Subsection 39.5(9). Administrative amendments are addressed by Subsection 39.5(13) of the Act. The issuance of an administrative amendment by the Illinois EPA is a ministerial function. Opportunity for review and comment by the public and USEPA are not provided for administrative amendments of CAAPP permits.

[219] It is also perhaps noteworthy that, with respect to the BOFs, US Steel's 2013 CAAPP renewal application actually explains that "… the Basic Oxygen Furnace process described in CAAPP permit condition 7.5 will eventually {emphasis added} need to be updated with the new secondary baghouse added as part of the Emissions Reduction Project (Construction Permit No. 11050005) once construction is complete."

In addition, in the renewal application, Appendix F - Proposed Permit Changes, more than 25 discrete changes are requested or proposed to Section 7.5 of the CAAPP permit as part of the renewal of the CAAPP permit. The changes that have already been authorized to be made by means of administrative amendment pursuant to Permit 11050006 are not differentiated from other proposed or requested changes.

[220] As already explained, the Act does not require the Illinois EPA to adopt procedural rules that elaborate on the necessary contents of applications for air pollution control construction permits. It would certainly be unreasonable to adopt such rules for applications that request Integrated Processing since such applications are extraordinarily rare. (This is likely because fulfilling the procedural requirements of the CAAPP acts to significantly delay issuance of a permit compared to when a permit might otherwise be issued.) In fact, the Illinois EPA has issued only one construction permit with Integrated Processing, Permit 11050006, the permit issued to US Steel for which it has not submitted an application for administrative amendment of the CAAPP permit. As such, even if such rules were adopted for applications that requested Integrated Processing, it is ridiculous to expect that they would address the situation that is presented with the Application.

by a construction permit but US Steel has not actually initiated. This is something that is outside the ability of the Illinois EPA to remedy through the conditions of the requested revision to Permit 95010001, much less during a subsequent amendment of the CAAPP Permit pursuant to Permit 11050006, the earlier construction permit.[221] As such, as the Application requests that the revision to Permit 95010001 that is sought also be subject to Integrated Processing, the Illinois EPA's responsibility was to deny the Application, which it has done. The Illinois EPA is not required to notify an applicant for an air pollution control construction permit of deficiencies in its application before denying the application.

Finally, as this comment claims that denial of the Application would be improper on procedural grounds because US Steel was not previously informed of this deficiency, this comment by US Steel in response to the Draft Denial Letters confirms that US Steel was informed in writing of the deficiencies in the Application before the Application was denied. What is noteworthy is that US Steel did not utilize the information in the Draft Denial Letters to attempt to remedy deficiencies presented by the Application that could readily be rectified by US Steel, such as Denial Point 14, as is discussed here.

G. The Application Includes All Required Information Relating to the Relationship Between Fugitive Dust Control Measures Required by Permit 95010001 and Requirements of 35 IAC Part 212 (Denial Point 15)

In the draft denial letter, Attachment 1, the Illinois EPA claims that the permit application is deficient because it "does not make clear the relationship between these requirements established by permit [requirement in Condition 23, 24, 26, 27, 28, 28 and 30 of Permit 95010001, relating to emissions of fugitive dust from roadways, parking areas, and open access areas] and state regulatory requirements for

[221] As this comment states that, "It is solely the responsibility of Illinois EPA to make revisions and amendments to CAAPP permit in conformance with applicable laws and rules," this observation is irrelevant in the context of Denial Point 14. The issue in this denial point is that the Application does not show that the Project, with revisions to Permit 95010001 as requested by the Application, would meet the standard for issuance of a permit.

In this regard, as related to the request for Integrated Processing, it is essential that the revision to Permit 96030056 authorized by Permit 11050006 be addressed. Otherwise, the Illinois EPA cannot proceed with a revised version of Permit 95010001 as requested by the Application. Accordingly, the Application must be denied. In the context of this denial point, as well as several other denial points, the relevant observation for the Application about the responsibility of the Illinois EPA should be that it is the responsibility of the Illinois EPA to deny a permit application when the application does not meet the standard for issuance of a permit.

fugitive emissions in 35 IAC Part 212 Subpart K." This assertion is without merit. The Illinois EPA does not identify any provision of the Act or the Illinois Code requiring that any application for a construction permit revision, even one for which Integrated Processing is requested, specify the relationship between existing permit terms and applicable rule requirements. It is the responsibility of Illinois EPA to draft a permit with conditions it judges to be suitable and appropriate and in conformance with applicable rules and laws.

This comment does not show that the Application should not be denied based on Denial Point 15. This comment downplays the implication of the Application's request for Integrated Processing of the requested revisions to Permit 9501000. This request affects the required contents of the revised permit and, therefore, the required contents of the Application. As already discussed, Subsection 39.5(13)(c)(v) of the Act provides that for a construction permit to qualify for having undergone Integrated Processing, the compliance requirements in the permit must be substantially equivalent to the requirements that would be required by the CAAPP. As related to the provisions of Permit 95010001 that require implementation of control measures for sources of fugitive dust, the Application is deficient as it does not show that these compliance requirements, either in Permit 95010001 or in Permit 6030056, the CAAPP permit for the facility, are substantially equivalent to those that would now apply if Permit 96030056 were being renewed or modified. In this regard, Denial Point 15 identifies several deficiencies in the Application related to the requirements for the control measure for fugitive dust, including the following, This comment does not show that these deficiencies are not present in the Application.

> **The Application does not propose revisions [to Permit 95010001] to clarify the interplay between the associated recordkeeping and reporting that are required by Permit 95010001 and the associated recordkeeping and reporting required by Board rules. In this regard, except for Condition 25 [addresses 35 IAC 216.361(e)(1), which limits opacity for roadways and parking areas at the facility to more than 5 percent], Permit 95010001 does not address the Board's rules for control of fugitive dust.**
>
> …
>
> **While the CAAPP permit for the facility addresses requirements in Board rules for control of fugitive dust, it is unclear whether the requirements for recordkeeping and reporting in 35 IAC 212.316(g) are applicable for the public roadways for which specific measures to reduce emissions of fugitive dust are required by Permit 95010001…**
>
> **… the amendments of the CAAPP permit that are authorized by means of the requested revisions of Permit 95010001 would be deficient.**

> For roadways, parking areas and other open areas, such an amended CAAPP permit would not clearly delineate the standards for opacity of emissions pursuant to Board rules that apply to different categories of emission units (e.g., 5 percent for roadways and parking areas at the facility, 10 percent for storage piles, and 20 percent for the on-site landfill). In addition, if provisions of 35 IAC 212.316 should not be applied to public roadways, as they are not part of the Granite City Works, such an amended CAAPP would improperly perpetuate errors in the current CAAPP permit regarding applicability of Board rules.
>
> Revised Draft Denial Letter, Attachment 1, pp. 55 and 56.

In addition, this comment does not support its claims that the deficiency in the Application addressed by Denial Point 15 is without merit. The Illinois EPA prepared the Revised Draft Denial Letter to better identify the provisions of the Act and the Illinois Code that might be violated if revisions to Permit 95010001 were simply made as requested by the Application. This comment does not address those provisions to show that they do not provide a valid basis to deny the Application. As the comment specifically claims that Denial Point 15 would be improper because the Illinois EPA has not identified a provision of the Act or the Illinois Code that requires an application for a construction to specify the relationship between existing permit terms and applicable requirements in rules, this claim misrepresents the basis of the denial. As related to requirements for control of fugitive dust, the Application would be denied because the Application does not show the content of the requested revision of Permit 95010001 would meet the statutory requirements for this revised permit to qualify for having been subject to Integrated Processing.[222] This comment also does not refute the inadequacies in the compliance requirements related to control measures in the current permits for sources of emissions of fugitive dust, as also addressed in this denial point.

[222] In the Application, US Steel could have proposed specific compliance requirements related to control measures for fugitive dust that it considered would be substantially equivalent to the requirements that would be provided for by the CAAPP, subject to review of the proposal by the Illinois EPA. Alternatively, the Application could have acknowledged that Permit 95010001, as well as Permit 96030056, currently do not contain compliance requirement that fulfill this criterion, identifying areas in which these permits are inadequate. This could be accompanied by a request that the revisions of Permit 95010001 prepared by the Illinois EPA pursuant to the Application include compliance requirements for the control measures for fugitive dust that are intended to be substantially equivalent to the requirements that should now be required under the CAAPP.

H. The Application Includes All Required Information Relating to Applicable Provisions of 40 CFR Part 63 Subpart FFFFF (Denial Point 16)

In the draft denial letter, Attachment 1, the Illinois EPA asserts that the Application is deficient because it "does not address revisions to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Manufacturing Facilities, 40 CFR 63 Subpart FFFFF, made by USEPA in July 2020." In Denial Point 16 in the Draft Denial Letter, the Illinois EPA observes that:

> These revisions to 40 CFR 63 Subpart FFFFF are relevant for Permit 95010001 and the revisions to this permit requested by the 2022 application. This is because Permit 95010001 relies on the applicable compliance procedures of 40 CFR 63 Subpart FFFFF (i.e., requirements for emission testing, opacity observations operational monitoring and recordkeeping), to verify consistent operation of the casthouse, the basic oxygen furnaces and other NESHAP-subject units and their emission controls, for the purposes of assuring compliance with the emission limits set by this permit for their emissions of particulate.

US Steel generally agrees with Illinois EPA's regarding the relevance of the requirements of the NESHAP. However, the current requirements of the NESHAP, as adopted by USEPA, are legally enforceable. The work practice, monitoring, testing, and recordkeeping requirements of 40 CFR 63 Subpart FFFFF provide a sound technical basis for demonstrating compliance with limits for particulate emission. This is the case regardless of whether the Illinois EPA would reopen Permit 96030056, the CAAPP permit for the facility, to assure compliance with 40 CFR 63 Subpart FFFFF, as reopening of a CAAPP permit is provided for by Subsection 39.5(15)(a)(iv) of the Act.

However, the assertion regarding a deficiency in the Application is without merit because the Illinois EPA does not identify any provision of the Act or the Illinois Code requiring that any application for a construction permit revision, even one for which integrated processing is requested, to include suggested bases upon which Illinois EPA might reopen the facility's CAAPP permit. It is solely the responsibility of Illinois EPA to reopen a CAAPP permit when the Illinois EPA determines that the permit must be revised or revoked to assure compliance with all applicable requirements.

Contrary to the claims made in this comment, the deficiency in the Application addressed in Denial Point 16 is an appropriate basis for the Application to be denied. In particular, for this denial point,

the Revised Draft Denial Letter summarizes the deficiency in the Application. It also provides the reason why this deficiency results in the legal standard for issuance of a permit not being met for the revision to Permit 95010001 that is requested by the Application.

> The 2022 application [Application] does not address or identify changes to Permit 95010001 and by means of Integrated Processing of the revision to Permit 950100001, the changes to the CAAPP permit for the Granite City Works, Permit 96030056, that are appropriate as a result of certain revisions of the Iron and Steel NESHAP, 40 CFR 63 Subpart FFFFF. …
>
> Absent explicit recognition in the 2022 application of the recent revisions to 40 CFR 63 Subpart FFFFF, the version of Permit 96030056 that would be authorized by means of Integrated Processing of revised Permit 95010001 could continue to reflect the historic version of 40 CFR 63 Subpart FFFFF, prior to the revisions related to startup, shutdown and malfunction….
>
> It would clearly be contrary to the compliance requirements of the CAAPP if for the casthouse and the BOFs, the amended CAAPP permit that would be authorized [to] be issued by means of Integrated Processing would still include provisions of the historic version of 40 CFR 63 Subpart FFFFF that have ceased to apply.
>
> Revised Draft Denial Letter, Attachment 1, pp. 58 and 59.

As the comment observes that the Illinois EPA may undertake the reopening of a CAAPP permit if it determines that a CAAPP permit must be revised to assure compliance with applicable requirements (e.g., limitations established in construction permits and applicable requirements of 40 CFR 63 Subpart FFFFF), this observation is not relevant. Denial Point 16 concerns a deficiency in the Application, not Permit 96030056. While this deficiency results because certain provisions in Permit 96030056 do not reflect revisions to 40 CFR 63 Subpart FFFFF made by USEPA,[223] this is not the actual reason for denial of the Application. Rather, the Application is being denied because it does not show that the Project-affected emissions units that are subject to 40 CFR 63 Subpart FFFFF would be required to comply with the current requirements of these rules, rather than with

[223] As discussed in the Draft Denials, due to USEPA's revision of 40 CFR 63 Subpart FFFFF, certain provisions in Permit 96030056 are now not correct. In particular, in July 2020, USEPA revised 40 CFR 63 Subpart FFFFF to remove the exemption from applicable standards during periods of startup, shutdown and malfunction (SSM). The conditions in the Permit 96030056 addressing 40 CFR 63 Subpart FFFFF are now flawed as they continue to provide that the applicable standards do not apply during SSM. Instead, other, alternative work practice requirements apply for SSM.

the provisions of Permit 95030056 as it indicates these rules provide exemptions from certain standards during periods of startup, shutdown and malfunction. The Application also does not request revisions to Permit 95010001 or alternatively, by means of Integrated Processing, administrative amendments to Permit 96030056 that would explicitly provide that Project-affected units that are subject to 40 CFR 63 Subpart FFFFF must comply with the current requirements of these rules.[224] In the absence of such information in or request by the Application, the Application would not show that the requested revisions to Permit 95010001 would provide for compliance with 40 CFR 63 Subpart FFFFF. Indeed, the Application does not even address USEPA's revision to 40 CFR 63 Subpart FFFFF related to periods of startup, shutdown and malfunction.[225] In summary, this comment does not confront, much less refute, Denial Point 16.

This comment also does not support its claim that denial of the Application based on Denial Point 16 would be improper because the Illinois EPA did not identify the provisions of the Act or the Illinois Code that would require that the Application suggest reason(s) why the

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[224] Since the applicable requirements of 40 CFR 63 Subpart FFFFF must be addressed in detail in the CAAPP permit for the facility, it would seem preferable that the Application set forth these requirements in the CAAPP permit by means of or reliance upon Integrated Processing of the revision to Permit 95010001. Otherwise, if the detailed requirements of 40 CFR 63 Subpart FFFFF are set forth in Permit 95010001, these requirements would have to again be set forth in the CAAPP permit.

[225] For what is referred to by Permit 95010001 as the "Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy)," the Application specifically addresses applicability of 40 CFR 63 Subpart FFFF as follows:

> … for clarity and consistency with these federal rule provisions [provisions of 40 CFR 63 Subpart FFFFF], USS Granite City request that this operation … be grouped with BOF Shop Operations.
>
> Application, Section 11.1.2, "National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Parts 61 and 63," p. 11-2.

This is noteworthy because it means that the Application requests changes to Permit 95010001 that involve 40 CFR 63 Subpart FFFFF. However, the Application does not set forth the specific requirements of 40 CFR 63 Subpart FFFFF that apply to the units for which applicability of these rules are addressed. Instead, the Application presumably relies on the provisions of Permit 96030056 that set forth the requirements of these rules for a "ladle metallurgy operation." For example, CAAPP Condition 7.5.3(e)(iii) sets forth the standard of 40 CFR 63.7790(a) for the PM emissions from a control device applied to such an operation. The Application does not acknowledge that USEPA has revised 40 CFR Subpart FFFFF so that it no longer provides an exception to certain requirements for SSM, contrary to what is currently indicated in Permit 96030056.

CAAPP permit for the facility should be reopened. As explained above, the absence of such information from the Application is not the deficiency in the Application identified in this denial point.[226] The Illinois EPA prepared the Revised Draft Denial Letter to better identify the provisions of the Act and the Illinois Code that might be violated if a revision to Permit 95010001 were issued as requested by the Application. This comment does not address the provisions that were identified for this denial point show that they are not a valid basis for denial of the Application.[227]

I. The Application Includes All Required Information Relating to Equipment that is Listed in the CAAPP Permit and Has Been Permanently Shut Down (Denial Point 17)

In the draft denial letter, Attachment 1, the Illinois EPA asserts that the Application is deficient because it "does not identify changes to the CAAPP permit for the Granite City Works, Permit 96030056, that are a consequence of permanent shut down of emissions units" and further asserts that "[t]he responsibility to identify provisions in the CAAPP permit that should not be carried forward initially falls on US Steel as it is the CAAPP Permittee for the Granite City Works."

The Application was submitted for the narrow and specific purpose of addressing the outstanding appeal items and the underlying PSD and NaNSR applicability evaluations relating to the Project implemented by

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[226] US Steel does not need to provide a basis upon which the Illinois EPA could initiate a reopening of Permit 96030056 to address USEPA's revisions to 40 CFR 63 Subpart FFFFF. As acknowledged by this comment, under both the Clean Air Act and the Act, US Steel must comply the requirements of 40 CFR 63 Subpart FFFFF as they currently exist without consideration of the outdated provisions of Permit 96030056 that indicate that certain requirements do not apply during periods of startup, shutdown and malfunction. As a practical matter, a reopening of Permit 96030056 to specifically address these outdated provisions would only be needed if US Steel attempts to rely on the outdated provisions of Permit 96030056 to excuse violations of applicable standards during period of startup, shutdown or malfunction.

[227] For Denial Point 16, the provisions of the Act that are cited as the basis for denial of the Application are Sections 9(a), 39(a),* 39.5(5)(i), 39.5(7)(a), 39.5(10)(a)(iv) and 39.5(13)(c) (v). The regulation that is cited as the basis of this denial point is 35 IAC 202.160(a).

* Section 39(a) of the Act is cited as it provides the statutory standard for issuance of permits. In addition, this section is cited as it provides that when granting permits, the Illinois EPA may impose conditions as necessary to accomplish the purposes of the Act provided they are not inconsistent with Board rules. As discussed in the Revised Draft Denial Letter, Appendix A, p. 2, this second element of Section 39(a) is cited as a basis for denial as the Application does not include information that may be needed for the Illinois EPA to impose necessary conditions in a revision to Permit 95010001 as requested by the Application.

National Steel. This application was not intended to address changes that are not directly relevant to that purpose. In addition, an application is pending to renew the CAAPP permit for the facility, which application was submitted by US Steel in November 2013, received by the Illinois EPA on December 3, 2013, and subsequently deemed complete by operation of law.

These assertions are without merit. Illinois EPA does not identify any provision of the Act or the Illinois Code requiring that any application for a construction permit revision, even one for which integrated processing is requested, request changes to the facility's CAAPP permit other than those directly resulting from the requested revisions of the underlying construction permit. It is the responsibility of Illinois EPA to draft a permit with conditions it judges to be suitable and appropriate and in conformance with applicable rules and laws.

The comment does not show that the Application should not be denied. In rebuttal to Denial Point 17, this comment simply claims that denial based on this denial point would be improper because, "The Application was submitted for the narrow and specific purpose of addressing the outstanding appeal items and the underlying PSD and NaNSR applicability evaluations relating to the Project implemented by National Steel [presumably, referring to the correction of errors in the original quantification of emissions]." However, US Steel's purpose for the Application is irrelevant to the denial of the Application on this denial point. That a separate application for renewal of Permit 96030056 is pending with the Illinois EPA is also irrelevant.[228]

What is relevant, as was discussed in the Draft Denial Letters, is that the Application requests that the revision of Permit 95010001 sought by the Application be subject to Integrated Processing. As such, pursuant to Subsection 39.5(13)(c)(v) of the Act, the Application effectively becomes a CAAPP application. To the extent that the Application would not address an administrative amendment of Permit 96030056 and does not address units that are now shutdown, the Application requests, by omission, that the Illinois EPA issue an amended CAAPP permit that would, on its face, continue to address units that are now shutdown, e.g., the two by-product recovery coke oven batteries that were shutdown in 2015 and associated by-product recovery equipment. As such, the Application requests a revision to

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[228] This comment also observes that the Illinois EPA has not formally requested US Steel to provide information that remedies this deficiency in its application for renewal of Permit 96030056, as the Illinois EPA is authorized to do pursuant to Subsection 39.5(5)(g) of the Act. This fact does not affect US Steel's obligation under Subsection 39.5(5)(g) of the Act.

Permit 95010001 that would authorize issuance of an amended CAAPP permit that on contain blatant errors. This would be contrary to Subsection 39.5(5)(i) of the Act, which provides as follows for applicants for CAAPP permits.

> Any applicant who fails to submit any relevant facts necessary to evaluate the subject source and its CAAPPP application or who has submitted incorrect information in a CAAPP application shall upon becoming aware of such failure or incorrect submittal, submit supplementary facts or correct information to the Agency. …
>
> Illinois Environmental Protection Act, Subsection 39.5(5)(i).

By means of the Draft Denial Letters, US Steel has been informed of this deficiency in the Application. However, US Steel has not undertaken action to remedy this deficiency.[229] Moreover, US Steel is the permittee for the Granite City Works. As such, US Steel should initiate actions to appropriately address the changes that it has made at its facility; the Illinois EPA should not initiate such actions on behalf of US Steel.

[229] Denial Point 17 does not require US Steel to make a revision to the Application detailing the emission units addressed by the current CAAPP permit that are now shutdown. Alternatively, US Steel could take the necessary action with an appropriate application for an administrative amendment or minor modification of the CAAPP permit. This would also enable issuance of an amended CAAPP permit pursuant to the Application that would no longer address units that have been shut down.

8A. General Responses to Certain Comments by US Steel, As Referred to by the Illinois EPA in Its Responses in Section 7

General Response 1: General Response to Comments As They Address Facts or Matters That Are Extraneous to the Planned Denial of the Application

In many of its comments, as addressed in this General Response 1, in addition to the other specific point(s) that are made by the comments, US Steel also makes observations or claims with regard to facts or matters that, even as they may be true, are appropriately considered extraneous to the planned denial of the Application. As such, as explained in this General Response, these "generic" comments did not show that the Application should not be denied.

Denial of the Application Would Be Improper Because the Illinois EPA Did Not Notify US Steel That the Application Was Deficient Before Beginning the Process for Denial of the Application

In a number of generic comments, US Steel observes that the Illinois EPA did not take certain actions before beginning the preparation of the Initial Draft Denial Letter. In particular, the Illinois EPA did not notify US Steel in writing that the Application was deemed incomplete and that certain information, as the Illinois EPA considered necessary, needed to be submitted as part of a new or revised application.[230] As US Steel's comments make this observation, the

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[230] In particular, in its comments, US Steel references 35 IAC 201.158 in Part 201, "Permits and General Provision," and 35 IAC 204.1300 in Part 204, "Prevention of Significant Deterioration," which provide as follows:

> Section 201.158 Incomplete Applications
> An application shall not be deemed to be filed until the applicant has submitted all information and completed application forms required by Section 201.152 or 201.157 of this Subpart, whichever is applicable, and procedures adopted and effective pursuant hereto. Provided, however, that if the Agency fails to notify the applicant within 30 days after the filing of a purported application that the application is incomplete and of the reasons the Agency deems it incomplete, the application shall be deemed to have been filed as of the date of such purported filing. The applicant may treat the Agency's notification that an application is incomplete as a denial of the application for purposes of review, pursuant to Section 40 of the Act [415 ILCS 5/40].
>
> Section 204.1300 Notification of Application Completeness to Applicants
> The Agency shall notify the applicant within 30 days after receipt as to the completeness of an application for a permit under this Part or any deficiency in the application or information submitted in such an application. In the event of such a deficiency, the date of receipt of the

comments suggest that the Application should not be denied. However, these comments do not show that the Illinois EPA had to request information that was not provided in the Application or that was needed to correct deficiencies in the Application as a prerequisite to beginning the process of denying the Application. The comments certainly do not show that it would be improper for the Application to be denied due to the deficiencies in the Application that have been identified simply because US Steel was not notified of any such deficiencies within the 30 day timeframes in the cited rules.[231] Indeed, the cited rules could be considered a reason why the Application must be denied given that the Illinois EPA did not notify US Steek of deficiencies in the Application within 30 days of the date that the Application was received by the Illinois EPA.

Moreover, the fact that certain earlier actions did not occur also does not bar or block denial of the Application. The standard for review of a permit application under Section 39(a) of the Act, that is, whether permit requested by the application should be issued or the application should be denied, addresses the submitted permit application, without consideration of the actions that the Illinois EPA did or did not take before denying the application. In addition, if the Act's standard for issuance of a permit would not be met by an application, the Act does not provide that the requested permit must be issued even if an action specified by the Act was not taken, e.g., the denial letter did not identify the provisions of the Act or the Illinois Code that might be violated if the permit requested by the application were issued. In such circumstances, if the denial of an application were appealed to the Board, the Board would properly return or remand the application back to the Illinois EPA so that it could resume its review of the application. This further review could still result in preparation of an appropriate denial letter if the permit applicant did not supplement its application to address the substance of the issues that were identified in the denial letter that the Board found to be defective on procedural grounds.

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application shall be the date on which the Agency receives all required information.

[231] As a practical matter, it is unrealistic to expect the Illinois EPA to identify all deficiencies in applications for air pollution control permits within 30 days given the often complicated nature of such applications and the workload of the Illinois EPA, Air Permit Section. At most, the cited rules should be considered to provide for an administrative determination for of the completeness of an application rather than technical completeness based on the review of the application by the professional staff of the Air Permit Section. Moreover, given the time required to prepare for and hold a public comment period on a draft of a permit or a permit denial letter, when a public comment period is held for a permit application, deficiencies in the application may not be identified until many months after it was received.

The Denial of the Application Would be Improper Because the Illinois EPA Has Not Adopted Procedures Pursuant to 35 IAC 201.152 Addressing the Deficiencies that Have Been Identified in the Application.

In a number of generic comments, US Steel observes that the Illinois EPA has not adopted procedures as provided for by the Board in 35 IAC 201.152,[232] that would specify that applications for state construction permits must include certain information that was not included BU US Steel in the Application. By these comments, it is suggested that since the Illinois EPA has not adopted such procedures, it would be improper for the Application to be found deficient and denied because certain information was not provided in the Application. However, the issue before the Illinois EPA is whether the Application meets the standard for issuance of a permit in Section 39(a) of the Act.[233] The fact that

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[232] In its entirety, 35 IAC 201.152 provides:

> Section 201.152 Contents of Application for Construction Permit
> An application for a construction permit shall contain, as a minimum, the following data and information: The nature of the emission unit and air pollution control equipment, including the expected life and deterioration rate; information concerning processes to which the emission unit or air pollution control equipment is related; the quantities and types of raw materials to be used in the emission source or air pollution control equipment; the nature, specific points of emission and quantities of uncontrolled and controlled air contaminant emissions at the source that includes the emission unit or air pollution control equipment; the type, size, efficiency and specifications (including engineering drawings, plans and specifications certified to by a registered Illinois professional engineer) of the proposed emission unit or air pollution control equipment; maps, statistics and other data reasonably sufficient to describe the location of the emission unit or air pollution control equipment. The Agency may waive the submission by the applicant of such engineering drawings, plans, specifications or such other portions of the above data or information as it shall deem inappropriate or unnecessary to the construction permit application. The Agency may adopt procedures that require data and information in addition to and in amplification of the matters specified in the first sentence of this Section, that are reasonably designed to determine compliance with this Chapter and ambient air quality standards, or that set forth the format by which all data and information shall be submitted.

[233] It should be noted that the Act does not identify or prescribe the particular information that must be included in an application for a state air pollution control permit for it to be considered to provide proof that the relevant substantive requirements of the Act and the Illinois Code related to emissions would not be violated by the facility and/or equipment for which a permit is being requested. Similarly, except for rare instances, the Illinois Code does not address the particular information that must be included in an application for a state air pollution control permit for it to be considered to provide proof that the relevant substantive requirements of the Act and the Illinois Code would not be violated. Decisions about the information that should be included in an application are entrusted to the Illinois EPA and its

the Illinois EPA has not adopted procedural rules regarding the required contents of state construction permit applications, as addressed by 35 IAC 201.152, is irrelevant. The Illinois EPA is not required to adopt such rules.[234] In 35 IAC 201.152, the Board simply

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technical judgment. Even where the Illinois Code specifies information that must be included in an application to address an applicable requirement, it may be done in terms of what must be shown by the information that is required to be included, as well as in terms of the specific information that must be provided. For example, with respect to the BACT requirement of the PSD rules, 35 IAC 204.810 provides as follow:

> Section 204.810 Source Information
> The owner or operator of a proposed major stationary source or major modification shall submit all information necessary to perform any analysis or make any determination required under this Part.
>
> a) With respect to a source or modification to which Sections 204.1100 ["Control Technology Review"] … apply, such information shall include:
>
> 1) A description of the nature, location, design capacity, and typical operating schedule of the source or modification, including specifications and drawings showing its design and plant layout;
>
> 2) A detailed schedule for construction of the source or modification; and
>
> 3) A detailed description as to what system of continuous emission reduction is planned for the source or modification, emission estimates, and any other information necessary to determine that BACT, as applicable, would be applied [emphasis added].

[234] The Illinois Pollution Control Board (Board) has addressed whether the Illinois EPA is required to adopt procedures and the scope of such procedures in the context of the former program for Underground Storage Tank Remediation pursuant to Sections 22.18, 22.18a, 22.18b and 22.18c of the Act, which are now repealed. The Board found that a determination made by the Illinois EPA denying reimbursement for certain costs under this program was appropriate even though this subject was not addressed by the rules that the Illinois EPA had adopted. The Opinion and Order of the Board in the subject case, PCB 91-201, includes the following statements;

> The Act "authorizes the Agency [Illinois EPA] to adopt reasonable and necessary rules for the administration of this Section." (Section 22.18(f).) The Agency has chosen not to promulgate rules pertaining to reimbursement but rather evaluates ach application on its own merits, on a case by case basis. (Pet. Br. at 39.) The evaluation of the application by the Agency is governed by the requirements of the statute.
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> The guidance manual has no legal force or affect because it was not promulgated according to the requirements of the APA [Administrative Procedures Act]. Corrective action is an action to stop minimize, eliminate or clean up a release of petroleum, The Strubes have not shown that the

recognizes the authority of the Illinois EPA to adopt such rules. Moreover, even if the Illinois EPA had adopted such rules it is unreasonable to expect that they would address all the matters that should be considered for the revision of Permit 95010001, as the Illinois EPA would address by denial of the Application.

Denial of the Application Would Be Improper Given Historic Actions by the Illinois EPA That Involved Permit 95010001

In certain generic comments, claims are made that the denial of the Application would be improper because of past actions taken by the Illinois EPA with regard to Permit 95010001. For example, several of these comments observe that the Illinois EPA did not require National Steel in the permit application that resulted in the initial issuance of Permit 95010001 in 1996 to provide certain supporting information or justification for the emission data provided in the Application, as submitted in October 2022. These comments suggest that it would be improper for the Application to be denied because it does not include such supporting information or justification for certain emission data that it contains. This is not the case and the absence of such information from the Application is an appropriate basis for the Application to be denied. These comments should be considered extraneous because they do not directly address the Application that US Steel has submitted.

In this regard, by the submittal of the Application, US Steel requested that the Illinois EPA make certain revisions to Permit 95010001. As revisions to this permit are requested, US Steel cannot simply rely on the Illinois EPA and its past actions to support or justify the revisions to Permit 95010001 that US Steel is now requesting. The Application, itself, must meet the standard in the Act for issuance of a revised permit. In this regard, US Steel's comments do not identify a provision of the Act that establishes a standard for the issuance of revisions of state permits that is different than the standard of issuance that generally applies for issuance of state permits. In other words, the Illinois EPA is not required to and should not perpetuate past decisions or past actions that are or may been erroneous when taking a new action. As recognized by the Board, when acting on a permit, the Illinois EPA must generally act appropriately based on the

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replacement of the concrete at their station was a corrective action. The Agency did not inform the Strubes about the reimbursements for costs associated with repaving but requested that the bills be submitted for review. Therefor the Board finds that the Strubes are not eligible for reimbursement of the cost of replacement of concrete pursuant to the statute.

Fred M. Strube and Cynthia L. Strube v. Illinois Environmental Protection Agency, PCB 91-205, Order and Opinion of the Board, May 21, 1992, p.3, p.7.

application and the issues that are currently before it irrespective of how it may have previously acted.[235] For example, the fact that certain decisions with respect to Best Available Control Technology (BACT) under the PSD program were made almost 30 years ago when initially issuing Permit 95010001 to National Steel is irrelevant to the review of the Application. This is because the Application requests increases in the permitted emissions of these units such that new determinations of BACT now also need to be made.[236]

The Illinois EPA Could Pursue Resolution of the Issues Identified In the Draft Denial Without Denying the Application

In a number of generic comments, US Steel observes that the Illinois EPA could pursue resolution of the deficiency that is identified in the Draft Denial Letter by a means other than denial of the Application. For example, it could continue informal discussions with US Steel about the revisions of Permit 95010001 and resolution of the permit appeals current pending with the Pollution Control Board. Alternatively, the Illinois EPA could have asked US Steel to supplement or revise the Application to address the deficiencies in the Application that have been identified.

While the Illinois EPA could have chosen to continue to engage in further informal discussions with US Steel or to attempt to get

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[235] For example, refer to the following statement by the Board in Chemrex, Incorporated v. Illinois Environmental Protection Agency, PCB 92-123, Order and Opinion, February 4, 1993. This statement formally confirms, as a matter of principle, that in its review of an application, the Illinois EPA is not constrained to the decision that was made for an earlier application.

> …the Board believes that the Agency is entitled to change its position, rather than maintain consistency with an incorrect eligibility determination, in light of the fact that there is no statutory provision, regulation or case law that addresses the issue at hand.
>
> PCB 92-123, Opinion and Order, February 4, 1993, p. 7.

[236] Based on certain past actions by the Illinois EPA, as mentioned by US Steel in its comments, US Steel may think that the level of information that was provided in the Application was reasonable, as is also observed in certain comments. (These observations are similar to incidental observations made in other comments that US Steel was not obligated to correctly guess as to how the Illinois EPA would exercise its judgment with respect to certain aspects of the requested revisions to Permit 95010001.)

However, these observations are clearly irrelevant to the denial of the Application. The Illinois EPA's review of the Application must consider whether the Application meets the Act's standard for issuance of a permit. The opinion of US Steel, the permit applicant, as to whether the level of information was "reasonable" or "appropriate" is irrelevant to whether the Application should or should not be denied.

deficiencies in the Application dealt with by US Steel by a means short of denial of the Application, this does not show that denial of the Application would be inappropriate. These generic comments do not point to a provision of the Act that requires the Illinois EPA to take such action on an application for state construction permit that it finds to be deficient prior to denying the application.[237] Indeed, these comments do not even show that denial of the Application would be unreasonable if one considers when issues with certain emission limits in Permit 951010001 were first identified.

[237] While these comments acknowledge that the Illinois EPA has, "authority to requests additional documentation in conjunction with a construction permit application," (for example, see US Steel's Comment VI), the comments point to 35 IAC 201.152 as the basis for such authority. As discussed above, this rule recognizes that the Illinois EPA may adopt procedures that expound upon or further specify the required content of an application for a construction permit as also specifically addressed by this rule. This rule does not address the process whereby the Illinois EPA may request a permit applicant supplement or revised the application that has been submitted.

8B. General Responses to Certain Comments by US Steel, as referred to by the Illinois EPA in its responses in Section 7

General Response 2: General Response to Comments Concerning Prescribed Emission Factors and Emission Determination Methodology

For various emission units, the Application requests that the revision to Permit 95010001 specify or "prescribe" the emission factors that US Steel must use on an ongoing basis to determine or calculate emissions for the purpose of demonstrating compliance with limitations in the permit for annual emissions. In addition, for the roof monitor for the blast furnace casthouse, the Application requests that the revised permit specify use of an "emissions determination methodology" that would yield specific emission factors for emissions of NOx and VOM. (To simplify this response, in the remainder of this response, this emissions determination methodology proposed by the Application will not be addressed separately but will instead be considered as being within the broad scope of the term emission factor.)

The emissions units and emission points for which the Application requests that the revision to Permit 95010001 prescribe emission factors are ones for which direct measurement of the rate of emissions by USEPA Reference Test Methods or, alternatively, material balance based on the amount of the pollutant precursor(s) in process materials, is not feasible. The Application does not request that the revised permit specify emission factors for emission units and emissions points whose circumstances are such that direct measurement of the rate of emissions is feasible.

For example, for the particulate emissions of the blast furnace casthouse, the Application proposes that the revision to Permit 95010001 prescribe the specific emission factors that are to be used to determine the uncaptured emissions from the casthouse. As these emissions occur through the roof monitor of the casthouse, rather than through the stacks of the particulate control devices serving the casthouse, these emissions are not amenable to quantitative measurement by established USEPA Reference Test Methods.[238] All calculations for the

[238] In the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Integrated Iron and Steel Mills, 40 CFR 63 Subpart FFFFF, USEPA has recognized that the emissions through roof monitors on casthouses are not amenable to emission testing. This NESHAP does not set quantitative emission standards for the amount or mass of particulate emissions from the roof monitors on blast furnace casthouses. These emissions from the roof monitors are constrained with standards for the opacity of emissions. These standards also serve to indirectly address the effectiveness with which the particulate emissions from tapping of blast furnaces, as occurs in casthouses, must be captured and directed to particulate control devices pursuant to this NESHAP.

amounts of particulate emissions from the casthouse roof monitor must necessarily be made by use of emission factors that are developed or derived relying on something other than direct measurements of the emissions through the roof monitor.[239]

As the Application requests that the revision to Permit 95010001 prescribe emissions factors for the determination of the emissions of certain emission units or certain emission points, the Application requests a fundamental change in Permit 95010001 as it would address the emissions of these units or emission points. This change also has important consequence for the content of the Application. As delineated in Denial Points 8, 9 and 10, the Application is deficient as it does not contain the additional information that must necessarily accompany its request that the revised permit prescribe use of certain emission factors.[240] In particular, the Application does not provide information justifying the specific values of the emission factors that are proposed or would be generated. Moreover, the various comments that are made with respect to the emission factors that are proposed by the Application do not show that such information need not be included in

[239] It should also be understood that for units at the facility for which emission testing is performed, emissions factors must also be used to calculate emissions on an ongoing basis. This is because emission testing occurs periodically. On a routine basis other than when testing is actually being conducted, the emissions of such units must be calculated using emission factors developed from the results of the testing that is conducted.

However, as provided in the CAAPP permit for the facility, Permit 96030056, the "test-based" factors may be refined to address the actual operation of the emission units and their control devices. In particular, if the operation of a control device is impaired lowering its effectiveness, the emission factor used to calculate emissions during the period of impaired operation must be refined so that it reasonably reflects the actual effectiveness of the control device during such period.

[240] The three categories of emission factors that the Application requests be prescribed by revised Permit 95010001 are addressed in Denial Points 8, 9 and 10. In addition, Denial Point 8 generally addresses the deficiencies in the Application as it requests that revised Permit 95010001 prescribe certain emission factors.

Denial Point 8, after the initial general discussion, addresses deficiencies in the Application with respect to proposed emission factors that appear to directly reflect published emission factors. Denial Point 9 further addresses the deficiencies in the Application with respect to the emission determination methodology that is proposed for uncaptured emissions of NOx and VOM from the blast furnace casthouse. Denial Point 10 addresses the deficiencies in the Application with respect to certain proposed emissions factors that appear to be derived from published emissions factors using process-specific information. For example, for the Iron Pellet Screen, the Application proposes a particulate emission factor that is 85 percent of a factor for uncontrolled emission, presumably to account for the control measures that are present for this unit. However, the Application does not justify the use of 85 percent control efficiency for this unit.

the Application. Instead, they generally argue that the previous acceptance by the Illinois EPA in previous permit actions involving the emission factors that the Application now requests be prescribed is sufficient to show that use of the selected emission factors should be prescribed by the requested revised permit. In addition, these comments argue that it is responsibility of the Illinois EPA to draft the requested revision to Permit 95010001 with conditions that it judges to be suitable and appropriate. As such these comments relinquish any responsibility by US Steel to provide substantive support and justification in the Application for the emission factors that it proposes be prescribed.

Accordingly, as the Application does not provide substantive support for the emission factors that it proposes to now be prescribed by the requested revised permit, it is appropriate that the Application be denied for reasons as set forth in Denial Points 8, 9 and 10, as has been done. Moreover, as US Steel argues that the Illinois EPA is responsible for imposing conditions in the requested revised permit that the Illinois EPA deems suitable and appropriate, it is also proper for the Application to have been denied. This is because the judgment of the Illinois EPA is that the Application does not include information showing that the specific emission factors that the Application requested be prescribed are suitable or appropriate.

By way of explanation, as the Application requests that revised Permit 95010001 specify use of specific emission factors for certain units and emission points, the Application requests a fundamental change to how the emissions of those units and emission points would be addressed on an ongoing basis. This is because this permit currently does not prescribe the specific emission factors that US Steel must use on an ongoing basis to determine compliance with the emission limits set by this permit. In addition, rather than prescribing use of specific emission factors, the Illinois EPA made clear when issuing the CAAPP permit for the facility, Permit 96030056, that emission factors that do not understate actual emissions, essentially "appropriate emission factors," are to be used on an ongoing basis when calculating emissions of the units for which Permit 95010001 sets limitations.[241] This happens

[241] For Project-affected process units, Condition 5.13(a) of Permit 96030056, if not stayed, would provide that, "The emission factors used by the Permittee [US Steel] to determine compliance with these emission limits [the emission factor limits and annual emission limits from Permit 95010001 for process emission units as they are restated in Permit 96030056] shall not understate actual emissions." In this regard, the subsequent provisions in Condition 5.13 distinguishes between the emission factors for emissions units for which Permit 96030056 requires emissions testing and emission factors for units for which emission testing is not required. The further requirements imposed by Condition 5.13, if it were not stayed, for these two categories of factors are different because of what would be expected to result in a change in the factor that US

as Permit 96030056 restates the emissions limitations set by Permit 95010001, as these limitations are applicable requirements for purposes of the CAAPP. For the various Project affected units at the facility, the obligation to show that appropriate emissions factors are being used to calculate emissions is placed on US Steel.[242]

As discussed by the Illinois EPA in the introductory paragraphs of the discussion for Denial Point 8 in the Denial Letters, if Permit 95010001 is to be revised as requested by the Application, to now prescribe the emission factors that US Steel must use to calculate emissions from certain units and emissions points, it must be determined that the factors that would be prescribed should be considered representative of those emissions. In particular, as reflected in various determinations by USEPA cited in this discussion, the record supporting the issuance of such a permit must contain the basis or rationale for the Illinois EPA's determination that the emissions factors that are being prescribed would be appropriate, i.e., representatives of actual emissions. However, the responsibility to provide the basis or rationale for the emission factors that are proposed to be prescribed rests, at least initially, upon US Steel and the information that it provides in its application for revisions to Permit 95010001. This is because US Steel has requested the revisions to Permit 95010001 to prescribe the emission factors that are to be used on an ongoing basis for certain emission units and emission points. Notwithstanding the fact that the Application requests that certain emission factors be prescribed, the Application does not provide substantive support for why the specific values of the emission factors that are proposed would

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Steel is using, i.e., the emissions measured in a periodic emission test or new information that becomes available about the emissions from an emissions unit or emission point, including new information published by USEPA.

Condition 5.13 of Permit 96030056 is, in fact, stayed pursuant to a May 2, 2013, Order of the Illinois Pollution Control Board (Board), which responded to a motion for stay of the effectiveness of appealed conditions made by US Steel in the permit appeal for Permit 96030056 (PCB 2013-053). However, this stay does not affect Condition 5.13(a) as it is also a public pronouncement by the Illinois EPA for how US Steel should determine emissions of Project-affected process units for purposes of addressing ongoing compliance with the limits on emissions set by Permit 95010001. That is, emissions shall not be determined simply based on an emission factor that may nominally address the emissions of a Project-affected process unit or emission point but, in reality, may understate the actual emissions of the unit or emission point.

[242] To facilitate review by the Illinois EPA and interested parties of the emission factors that US Steel is using to determine compliance with the relevant emission limitations, Permit 96030056 would also impose certain procedural requirements. For example, this permit would require US Steel to review the emission factors that it is using for units for which emission testing is not required on at least an annual basis (Condition 5.13(c)(ii)) and to inform the Illinois EPA if it updates the emission factors that it is using based on such review (Condition 5.13(d)(i)).

appropriately be set as prescribed factors by the revised permit. Instead, the Application simply identifies the purpose for which the proposed factor has been used earlier in the Application in the revised NSR applicability analyses for the Project.[243] This information is not sufficient to serve as a basis or rationale for the revision to Permit 95010001 to prescribe use of the proposed factors.

Moreover, with regard to the emission factors that the Application proposes be prescribed, US Steel's comments rejects responsibility for justifying the use of the specific factors that are proposed. The comments ignore the USEPA's Order concerning BP Amoco Chemical Company cited in Denial Point 8 (Denial Letters, Footnote 40). This decision concerning a Title V permit issued in Texas is relevant as it discusses what must be shown if a revision to Permit 95010001 is to be issued that would now prescribe use of certain emissions factors on an ongoing basis.[244] It is implicit in USEPA's decision that for the emissions units

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[243] For example, when describing the requested changes to permit terms for PM and PM_{10} emissions, for the proposed prescribed emission factors for certain blast furnace operations, the Application simply states that:

> Prescribed emission factors consistent with the approach described in Section 3 [Discussion of Permit Conditions used to Restrict PTE] are provided herein. USS Granite is proposing the following prescribed emission factors for the emission point for which emissions testing is not feasible [Footnote] 31. Each of these emission factors is the same as the corresponding emission factors used to calculate pre-project actual emissions as shown in Table 5-5 [Pre-project Actual Emissions and Summary of Proposed Changes to Pre-Project PM Emission Factors for Affected Emissions Units] and Table 5-6 [Pre-project Actual Emissions and Summary of Proposed Changes to Pre-Project PM_{10} Emission Factors for Affected Emissions Units].
>
> (a) For Blast Furnace Casthouse Roof Monitor, use PM emissions factor of 0.030 lb/ton and PM_{10} emission factor of 0.0153 lb/ton.
> (b) For Blast Furnace Charging, use PM emission factor of 0.0024 lb/ton and PM_{10} emissions factor of 0.0012 lb/ton.
> (c) For slag pits, use PM and PM_{10} emission factor of 0.00417 lb/ton. Application, 5-14, Section 5.5.1.2 Prescribed Emission Factors for Certain Blast Furnaces Operations.
>
> [Footnote][31] PM and PM_{10} emission factors are appropriately determined from the results of emissions testing per 40 CFR 63 Subpart FFFFF to determine PM and PM_{10} emissions rates for the Blast Furnace Casthouse baghouse and the Iron Spout baghouse.
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> Application, Section 5.5.1.2, "Prescribed Emission Factors for Certain Blast Furnace Operation," pp. 5- 14 and 5-15.

[244] When responding to a petition requesting that USEPA object to a Title V permit issued by the Texas Commission on Environmental Quality (TCEQ) as it addressed the emission factors that the permit allowed the source to use to

and emissions points for which the Application requests that Revised Permit 95010001 prescribe use of specific emission factors, the Application must provide a substantive, technical justification for the proposed factors. It is then incumbent upon the Illinois EPA to exercise its judgement to decide whether such justification should be considered adequate.

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determine emissions of NOx and CO from certain fuel combustion units, the USEPA found the following, granting the petition on this point:

> Instead of providing technical justifications, TCEQ's RTC [Response to Comments] redirected the public as follows: "The rationale for the emission factors and emission calculations is included in the application representations that were made during the NSR permit action that authorized these terms and conditions." RTC at 11. This cursory reference to an unspecified permit application is not enough to justify the sufficiency of monitoring [*], nor to adequately respond to significant public comments questioning the same. TCEQ's response leaves the public—and for that matter, the EPA—in the dark about where to look, and what to look for.{Footnote} [26] Moreover, a justification provided by a permittee in a permit application should not substitute for the judgement of the permitting authority (TCEQ) with responsibility for ensuring that a title V permit contains sufficient monitoring to ensure compliance.
>
> > [* As this response uses the term "monitoring," it refers to "periodic monitoring" as used in the federal operating permit program required by Title V of the Clean Air Act to refer to the collection of requirements for emission unit(s) imposed by such a permit to reasonably address compliance with applicable substantive requirement(s) that apply for the emissions of such unit(s). "Periodic monitoring" may include requirements such as requirements for periodic emission testing, operational instrumentation, certain work practices, recordkeeping, and reporting, as well as requirements for operational monitoring and emissions monitoring.]
>
> [Footnote][26] As the Petitioners suggest, this is no simple task for a permit like Permit No. 1176/PSDTX782, which has been revised numerous times. Although the 2013 version of this permit includes a date next to some permit terms indicating the last time that a permit term was revised, it is unclear whether the application associated with the initial establishment of the term, or the latest revision, or something in between, might contain the information that TCEQ deems relevant. Moreover, the 2020 version of this permit no longer includes these date references, further obscuring the location of any potentially relevant application representations.
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> Before the Administrator, United States Environmental Protection Agency: In the Matter of: BP Amoco Chemical Company, Texas City Chemical Plant, Galveston County Texas, Permit O1513 Issued by the Texas Commission on Environmental Quality; Petition No. VI-2017-6, Order Responding to Petition Requesting Objection to the Issuance of Title V Permit; Order Granting in Part and Denying In Part a Petition for Objection to Permit, July 20, 2021, p.18.

It should be understood that the Illinois EPA does not dispute that as related to the Project, it has accepted certain emission factors during past permitting actions. However, in the permits that were issued, the Illinois EPA did not prescribe the specific emissions factors that US Steel must use when calculating emissions of process units for purpose of compliance with applicable emissions limitations, as is now requested by the Application.[245] Moreover, the question of how compliance should be determined in practice with the emission factor limits and annual emission limits set by Permit 95010001 was not directly confronted until the 2010 time frame, almost 15 years after the initial issuance of Permit 95010001. This happened when the Illinois EPA began processing US Steel's initial application for a CAAPP permit for the facility. It was in this period that the Illinois EPA formalized its very straightforward position that compliance with the emission factor limits and annual emissions in Permit 95010001 was to be calculated using appropriate emission factors.

Finally, even if the Illinois EPA had prescribed emission factors in past permits, it would still be necessary during the issuance of the requested revisions to Permit 95010001 for there to be substantive information showing that any emission factors that would be prescribed by such revised permit would be appropriate. In other words, in the proceeding for revision to Permit 95010001, it would have to be shown either that the previously prescribed emissions factors should still be considered appropriate or, otherwise, that the new emissions factors that are being proposed to be prescribed by the revised permit would be appropriate.

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[245] While some of US Steel's comments claim that the Illinois EPA has already prescribed the use of emission factors in Permit 95010001, these claims are not supported. The comments do not identify language in Permit 95010001 that suggests that the emissions factor limits set by this permit are anything but enforceable limitations. The comments do not explain why Permit 95010001 would prescribe emission factors for all Project-affected units and emission points rather than only for units and emission points for which emission testing is not feasible. Finally, if US Steel believed that the Illinois EPA considered that the subject provisions in Permit 95010001 prescribed the emission factors that US Steel must use to address limitations set for annual emissions by Permit 95010001, as claimed in its comments, why did US Steel file permit appeals with the Board challenging the emission factor limits in Permit 95010001 as they were or would be restated in Permit 96030056 (PCB 2013-053 and PCB 2013-062). Indeed, one of the reasons that US Steel filed these permit appeals is precisely because the Illinois EPA made clear in the subject permit proceedings that the provisions in Permit 95010001 addressing emissions of process units in terms of pounds/ton of production or pounds/ton of material handled, as they were present in the appealed permits, set limitations on emissions.

9. Attachment A: The Proper Approach, As Prepared by the Illinois EPA, to the Increase and Net Increase in the NOx Emissions of the Project with the Requested Revisions to Permit 95010001.

In this attachment, the Illinois EPA sets forth how the increase and net increase in the NOx emissions of the Project with the requested increases in the NOx emissions of the blast furnace casthouse and BOFs would properly be addressed. This attachment shows that if the applicability of NSR for NOx were properly evaluated, excluding the unrelated post-project decreases in NOx emissions, the Project would almost certainly be a major modification for NOx with the increases requested by the Application in the permitted NOx emissions of the blast furnace casthouse and the BOFs.

This attachment includes three tables with accompanying discussion. Table 1 addresses the increase in NOx emissions simply from the project itself. Table 2 addresses the net increase in NOx emissions from the Project also considering the contemporaneous increases and decreases in emissions that accompanied the Project. Table 3 also addresses the net increase in NOx emissions from the Project but describes how the post-project emission decreases should be disregarded in an appropriate analysis. The purpose of this table is to highlight the errors in the revised NSR analysis in the Application. As neither US Steel's comments nor the Application provide information for the NOx emissions of the Project as should have been permitted in 1996 if the NOx emissions of the emissions of the blast furnace casthouse and BOFs had been correctly quantified, these tables use a variable, "*p*", to represent the extent to which the permitted NOx emissions of the Project-affected fuel burning units and the Project would have been more than the baseline NOx emissions.[246] Likewise, because information was not provided for the decrease in NOx emissions that accompanied each of the three actions that lowered NOx emissions of Project-affected fuel burning units, variables, "*q*," "*r*," and "*s*," are used to represent these

[246] In Attachment A, the approaches taken by the Illinois EPA to estimating the NOx emissions of the Project-affected fuel burning units with the Project are more refined than those discussed in the Draft Denial Letters. The approaches now indicate that the increase in the NOx emissions of the Project-affected fuel burning units with the requested revisions to Permit 95010001 could be about 200 tons/year, rather than being in the range of 400 to 500 tons/year. (For example, refer to the revised Draft Denial Letter, Attachment 1, Footnote 11.) In any case, if one accepts that the Project involved an increase in the permitted annual NOx emissions of Project-affected fuel-burning units in the hundred tons, rather than a decrease in their emissions, as improperly claimed by the Application, it is apparent that the Application does not provide proof that the Project would not become a major modification for NOx with the requested revisions to Permit 95010001 to increase the permitted NOx emissions of certain furnaces.

decreases.

Table 1: Illinois EPA's Presentation for an Appropriate Revised Emissions Increase Analysis for the Project for NOx (NOx Emissions in Tons/Year)

Emission Units	Revised Baseline Emissions	Project Emissions with Requested Revised Limits	Increase in Emissions
Blast Furnaces	4.6	24.0	19.4
BOFs and Other BOF Shop Operations	179.8	400.0	220.2
Continuous Casting Operations	0.0	0.0	0.0
Project-Affected Fuel Burning Units	956.3	956.3 + *p*	*P*
Total	1140.7	1,380.3 + *p*	239.6 + *p*

Since the increase in NOx emissions is equal to or greater than the NSR significant emissions rate for NOx, 40 tons/year, contemporaneous changes in NOx emissions may be considered in Step 2 of the revised NSR applicability analysis for NOx to show that the net increase in emissions of the Project is less than significant.

As already explained, in Table 1, the variable *p* is used to show that the value for the NOx emissions of Project-affected fuel burning units in the Application does not account for the increase in NOx emissions from such units with the use of more fuel, as is specifically allowed by Permit 95010001 to accompany production of more iron and steel as addressed by this permit. As a result, the overall NOx emissions of the Project and the increases in the emissions of the Project should also be increased by *p*. In this regard, US Steel has not provided information for the value of *p*, i.e., the upward adjustment to the NOx emissions of the Project-affected fuel burning units making the same corrections that were made in the proposed revisions to their baseline NOx emissions for the Project. For these units, the revised determination for baseline emissions now addresses emissions from use of COG. It also may make certain other corrections to the determination of baseline emissions. For example, the Application indicates that this revised determination addresses the fact that the original determination for baseline NOx emissions incorrectly "double-counted" NOx emissions from use of natural gas in continuous casting operations, which emissions were also being addressed with the emissions of the Project-affected fuel burning units. (Application, Section 6.2.2.7, p. 6-4.) However, as US Steel argues that, at least with respect to Project-affected fuel burning units, the revised NSR applicability analysis for NOx should be prospective in nature, US Steel has not submitted a revised value for the NOx emissions of these units with the

Project that would reflect the circumstances of the Granite City Works circa 1996 when Permit 95010001 was originally issued.

Table 2: Illinois EPA's Presentation for an Appropriate Revised Net Emissions Increase Analysis for NOx for the Project With Contemporaneous Period From January 1990 through January 1996 (Emissions in tons/year)

Value for NOx Emissions Used in the Analysis/ Is the Net Increase in Emissions Significant?	Emissions	Totals
Emissions Increases and Decreases in the Contemporaneous Period		
Decrease from Blooming Mill Shutdown (April 1991)	-217.8	
Decreases from Batch Annealing Shutdown (December 1991)	-8.7	
Contemporaneous Increases & Decreases – Total		-226.5
Overall Revised Net Emissions Change of the Project		
Increase in Emissions from the Project (From Table 1)	239.6 + *p*	
Contemporaneous Increases and Decreases in Emission	-226.5	
Total	13.1 + *p*	13.1 + *p*
Is the Increase Significant?	Yes, as explained below	

It is reasonable to expect that *p* is much greater than the amount that would be necessary for the Project to become a major modification for NOx with the requested increases in permitted NOX emissions of the blast furnaces and BOF.[247] For the net increase in NOx emissions of the

[247] The Project was originally permitted for a net increase in NOx emissions of 38.3 tons/year. (Permit 95010001, issued May 30, 2012, Condition 41(c).) The Application requests that Permit 95010001 be revised to increase the permitted NOx emissions of the blast furnace casthouse and the BOFs by over 200 tons/year. However, the Application does not identify errors in the original permitting of the Project whose correction would lower the NOx emissions of the Project by a similar amount so as to make up for the requested increase in permitted emissions.

In particular, for the continuous casting operations, the Application does propose corrections to the original emissions accounting for the Project for NOx. US Steel has determined that there are not "process emissions" from the caster molds, only NOx emissions from burning natural gas, contrary to what National Steel indicated in 1996 in its original application for the Project and provided for by Permit 95010001. However, this correction would not be sufficient to make up for the requested increase in the permitted NOx emissions of the blast furnace casthouse and BOFs. Based on National Steel's original application, the increase in process NOx emissions from the continuous caster molds was only about 29.2 tons/year, i.e., the difference between baseline emissions of 60.34 tons/year and emissions with the Project of 89.50 tons/year. (Application, Appendix C – Emission Calculations, Emissions Calculations

Project to become 40 tons/year, the NSR significant emission rate for NOx, *p* would only need to be 26.9 ton/year. (40 tons/year - 13.1 tons/year = 26.9 tons/year.)

Since the Application did not provide a revised determination for the potential/permittable NOx emissions of Project-affected fuel burning units with the Project circa 1996, the Illinois EPA has made estimates for the value of *p*. Based on these estimates, the Illinois EPA has concluded that the Application does not provide proof that the net increase in NOx emissions from the Project with the requested increases in permitted NOx emissions of the blast furnace casthouse and BOFs would be less than 40 tons/year, the NSR significant emissions rate for NOx. An estimate for *p* can be made from the information in the Application, including the copies of Permit 95010001 in Appendix D of the Application. Since production of iron by an integrated iron and steel mill is more fuel intensive than production of steel, requiring use of more fuel by the facility in Btu/ton produced, it should be expected that *p*, the increase in NOx emissions of the Project-affected fuel burning units with the Project, is proportional to the permitted increase in iron production. Permit 95010001 provides for an increase of about 50 percent in the production of iron.[248] The permitted NOx emissions from Project-affected fuel burning units from use of BFG and natural gas were originally about 664 tons/year (175.19 tons/year for natural gas + 488.48 tons/year for BFG = 663.67 tons/year). (Permit 95010001, issued January 25, 1996, Condition 22, Table 4.) This yields a value for *p* of about 220 tons/year (664 tons/year x (150% - 100%) ÷ 150% = 221.3, ~ 220 tons/year). If it is assumed, as was done during the original permitting

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Included in the 1995 Construction Permit Application, Table 3-2: Granite City Division of National Steel, Netting Analysis Summary - NOx (originally dated 1/16/96).

> Any NOx emissions from this operation [the continuous caster molds] are due to combustion of natural gas [emphasis added] and are already accounted for under gaseous fuel burning activities listed above [fuel burning emissions units]. Therefore, in the revised analysis, NOx emissions are not included from this operation.
> Application, Section 6.2.2.7, p. 6-4.

[248] As explained in its introductory paragraph, Permit 95010001 provided for an increase in the permitted production of iron by the facility to 3,165,000 tons/year. The baseline iron production was 2,059.557 tons (Application Table 6-3). As such, Permit 9501001 addresses an increase in iron production of about 50 percent ((3,165,000 - 2,059,557) ÷ 2,059,557 = 0.537, ~ 50 percent). A similar calculation for production of steel shows an increase of 0.483, or again about 50 percent.

of the Project,[249] that the increase in production would be enabled solely by increased use of BFG, the resulting value for *p* is only about 160 tons/year (488.48 tons/year x (150% - 100%) ÷ 150% = 162.8, ~ 160 tons/year). With either of these values for the increases in NOx emissions from the Project-affected fuel burning units, the decreases in emissions in the contemporaneous period (i.e., January 1990 through January 1996) are not sufficient to compensate for the requested increases in the permitted NOx emissions of the blast furnace casthouse and BOFs.[250]

Values for *p* can also be estimated from information in the Application for the corrected baseline NOx emissions for the Project-affected fuel burning units. In this regard, the Application indicates corrected baseline NOx emissions from these units of 494.73 tons/year from use of BFG and natural gas. The resulting value for *p* is 180 tons/year (494.73 tons/year x (150% - 100%) ÷ 100% = 247.4, ~ 245 tons/year). This is noticeably greater than the values derived from the emissions limitations in Permit 95010001, i.e., 160 or 220 tons/year. This estimate also indicates that the Project would become a major NSR source for NOx with the increases in the permitted NOx emissions of the blast furnace casthouse and the BOFs that the Application requests.[251]

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[249] The subsequent issuance of Construction Permit 98110038 in 1999, which provided for an increase in the permitted usage of and emissions from use of natural gas, raises doubts about the validity of this assumption.

[250] If one also assumes for these estimates, as was assumed for the original permitting of the Project, that the usage of COG by Project-affected fuel burning units would not change with the Project, the calculated increases in NOx emissions of the fuel burning units with the Project would be greater. This is because the increases in permitted production with the Project can only be achieved with increases in usage of BFG or natural gas, but not usage of COG. For example, if COG historically provided about 10 percent of the heat input to the Project-affected fuel burning units,* the increase in usage of natural gas and BFG, or BFG by itself, for the increase in permitted production should be expected to be about 7 percent greater than estimated above, i.e., about 170 or 235 tons/year. This is because the factor applied to the permitted emissions should be 35.7 percent, rather than 33.3 percent. ((150% - 100%) ÷ (100% - 10% + 50%) = 0.357; (150% - 100%) ÷ (100%) = 0.333; and 0.357 ÷ 0.333 = 1.0725, or about 7 percent greater.)

* Information for the contribution of COG to the fuel usage of the Project-affected fuel burning units is provided in the information in the Application supporting the revised determination for the baseline emissions of the Project. (Application, Appendix B - Emission Calculations, Revised NOx PSD Net Emissions Increase Analysis.)

[251] The Application indicates baseline NOx emissions from the blast furnace stoves, boilers, ladle drying-preheaters and BFG flares from use of BFG and natural gas of 494.7 tons/year (319.5 and 175.2 tons/year from, respectively, use of BFG and natural gas). (Application, Table 6.5, Pre-project Actual

Table 3: Illinois EPA's Presentation for the Application's Revised Net Emissions Increase Analysis for NOx for the Project With Contemporaneous Period From January 1990 through January 1996 (Emissions in tons/year)

Value for NOx Emissions Used in the Analysis/ Is the Net Increase in Emissions Significant?	Emissions Totals
Overall Net Emissions Change of the Project	
Increase in Emissions from the Project (From Table 1)	239.6 + *p*
Contemporaneous Increases & Decreases (From Table 2)	-226.5
Project Net Increase	13.1 + *p*
Is the Increase Significant?	Yes, as already explained
Post-Project "Non-Contemporaneous" Emission Decreases (After 1996)	
Decrease from shutdown of Boilers 1 - 10 (pursuant to C. Permit 06070023, orig. issued Jan. 2008)	-*q**
Decrease from adding FGR systems to Boilers 11 & 12 (pursuant to C. Permit 10080022, orig. issued Feb. 2011)	-*r**
Decrease from elimination of COG with the shutdown of the two by-product recovery coke oven batteries (shutdown February 2015)	-*s**
Subtotal	-(*q* + *r* + *s*)

Project Net Increase	239.6 + *p*	13.1 + *p*
Contemporaneous Increases & Decreases (From Table 2)	-226.5	
Post-Project Emissions Decreases (from above)	-(*q* + *r* + *s*)	
Total		13.1 + *p* - (*q* + *r* + *s*)
Is the Increase Significant?	Yes, as explained below	

As already discussed, the Application does not provide information for the decrease in NOx emissions from each of the post-project actions

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Emissions and Summary of Proposed Changes to Pre-Project NOx Emissions Factors for Affected Emissions Units.) With the assumption that the increase in use of BFG and natural gas or only BFG to facilitate the permitted increase in production is in the same proportion as the permitted increase in iron production, the values for *p* that result are 245 tons/year (494.7 x (150% - 100%) ÷ 100%) = 247.37, ~ 245 tons/year; (319.5 x (150% - 100%) ÷ 100%) = 159.75, ~ 160 tons/year. These values for *p* are consistent with the values estimated using information in Permit 95010001, i.e., 160 and 245 tons/year compared to 160 and 220 tons/year. These estimates for *p* also indicate that the Project would become a major modification with the increases that the Application requests in the permitted NOx emissions of the blast furnace casthouse and the BOFs.

that the revised NSR applicability analysis in the Application implicitly relies upon. Indeed, the Application does not actually quantify the overall decrease in emissions that resulted from these actions. Accordingly, *q*, *r* and *s* are used, respectively, to represent the amount by which the three actions that have occurred at the Granite City Works acted to the NOx emissions of affected units.

This revised NSR applicability analysis does not show that the Project would not become a major project for NOx with the requested increases in permitted NOx emissions of the blast furnace casthouse and BOFs. While the Application claims, based on the analysis set forth in Table 6-9, that the net emissions increase for NOx would be a net increase of only 13.1 tons/year, that analysis is flawed. That analysis overlooks the increase in the NOx emissions for Project-affected fuel burning units with the Project. Then, it also improperly takes credit for decreases in NOx emissions that were not part of the Project, i.e., decreases that occurred after January 1996, which was the end of the contemporaneous period for the Project. With appropriate information for the increase in emissions from the Project, absent the post-Project decreases, the Project would still become a major modification for NOx with the requested increases in the permitted emissions of the blast furnace casthouse and BOFs, as previously shown in Table 2.

APPENDICES

Copies of USEPA Determinations Addressing Relaxations of Limitations Established in Permits As Related to Applicability of New Source Review That Are Referred to by US Steel in Certain Comments and the Illinois EPA in Its Responses to Those Comments

APPENDIX 1.1

BOMBARDIER DETERMINATION

September 22, 2005

(AR-18J)

Jeffrey T. Hanson, P.E., Chief
Permits and Stationary Source Modeling Section
Bureau of Air Management
Wisconsin Department of Natural Resources
101 South Webster Street
P.O. Box 7921
Madison, Wisconsin 53707

Dear Mr. Hanson:

I am writing in response to your July 28, 2005, letter requesting assistance from the United States Environmental Protection Agency (USEPA) in determining whether a relaxation of synthetic minor permit limits at Bombardier Motor Company of America (Bombardier) would be subject to non-attainment New Source Review (NAA NSR). Bombardier is located in Racine County, Wisconsin, which is designated as a moderate non-attainment area under the 8-hour National Ambient Air Quality Standard (NAAQS) for ozone which has a major source threshold of 100 tons per year (TPY) of volatile organic compounds (VOC). Prior to June 15, 2005, Racine County was designated as a severe nonattainment area under the 1-hour ozone standard and had a major source threshold of 25 TPY of VOC.

The Wisconsin Department of Natural Resources (WDNR) issued Bombardier a permit in 2001 under the 1-hour ozone standard that limited its potential emissions of VOC to less than 25 TPY to avoid classification as a major source and to avoid NAA NSR review that would require emission offsets and the application of Lowest Achievable Emission Reductions (LAER). Bombardier has now requested that the restrictions in its synthetic minor NSR permit be relaxed from 25 TPY to less than 100 TPY.

Wisconsin has a State Implementation Plan (SIP) approved NAA NSR program. This authority was approved by the USEPA on January 16, 1995, and became effective on February 17, 1995. (See 60 FR 3328.) Pursuant to this approval, the WDNR is responsible for issuing NSR related applicability determinations to sources based on Wisconsin's regulations, in compliance with its SIP. USEPA's NSR regulations for nonattainment areas are set forth at 40 CFR 51.165, 52.24 and part 51, Appendix S. The following is our position regarding the application of EPA's NAA NSR requirements.

The NAA NSR rules at 40 CFR §51.165(a)(5)(ii) state:

> At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of regulations approved pursuant to this section shall apply to the source or modification as though construction had not yet commenced on the source or modification.

It is our view that if a stationary source becomes a major stationary source solely by virtue of a relaxation in any enforceable limitation on the capacity of the source, such as relaxation of a synthetic minor emissions cap, then the NAA NSR requirements apply to the source as though construction had not yet commenced on the source. USEPA's April 30, 2004, phase 1 8-hour ozone implementation rule (69 FR 23986) provides: "emission limitations and other requirements in NSR permits issued under 1-hour NSR programs will continue to be in force when the 1-hour NAAQS is revoked."

Bombardier's 25 TPY emissions limit was a requirement in a minor NSR permit, and the limit was taken to avoid application of major NAA NSR. Based on the language in the rule, the revocation of the 1-hour NAAQS should not allow relaxation of the permit limit without triggering major NSR.

The interpretation above was made in consultation with USEPA's Office of General Counsel and Office of Air Quality, Planning, and Standards.

If you have any further questions regarding this matter, please contact Susan Siepkowski of my staff at (312) 353-2654.

Sincerely,

/s/

Pamela Blakley, Chief
Air Permits Section

Dennis Sutton, P.E., Manager
Permit Section
Illinois Environmental Protection Agency

Paul Purdue, Permits Branch Chief
Indiana Department of Environmental Quality

Lynn Fiedler, Supervisor
Permit Section
Michigan Department of Environmental Quality

Carolina Espejel-Schuck, Supervisor
Metro District - Major Facilities Section
Minnesota Pollution Control Agency

Mike Hopkins, Manager
Air Quality Modeling and Planning
Ohio Environmental Protection Agency

APPENDIX 1.2

PSE & G DETERMINATION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 Broadway
New York, NY 10007-1866

February 11, 2009

Mr. William N. Viola
Director, Power Generation PJM
PSE&G Fossil LLC
80 Park Plaza
Newark, NJ 07102-4194

Re: Request for PSD Applicability Determinations for
Burlington 12 and Kearny 12 Generating Stations

Dear Mr. Viola:

This is in response to your December 3, 2008 letter to me wherein you requested PSD non-applicability determinations for the proposed relaxation of certain operating and emissions limitations contained in the existing permits for the PSE&G Burlington and Kearny Generating Stations. Specifically, you are proposing relaxations that would enable you to increase the annual heat input and resultant emissions for 8 General Electric LM6000 combustion turbines (4 of these "peaking" units are located at each facility) to address proposed NJDEP regulations regarding nitrogen oxide emissions during High Electric Demand Days. Your letter states that the proposed relaxations would allow greater use of these LM6000 units instead of older, less efficient combustion turbines during these high demand days.

In its New Jersey Title V permits, PSE&G restricted the amounts of natural gas and fuel oil to limit the LM6000 units to approximately 15.4% annual capacity at the Burlington Station, and approximately 13.2% annual capacity at Kearny. These permit limits were established upon commencement of operation of the units (the years 2000 through 2001) so that the emissions from these projects would remain below the applicability threshold limits of New Jersey's non-attainment regulations of NJAC 7:27-18. The establishment of these limits also resulted in the non-applicability of the Burlington and Kearny projects to the federal PSD regulations of 40 CFR § 52.21. The proposal that is the subject of your December 3, 2008 letter is to increase the annual capacity at the Burlington Station to 18.6% and at Kearny to 16.8%.

In order to determine PSD applicability in this case, two specific, separate and independent tests must be performed: (1) the standard PSD applicability test pursuant to 40 CFR § 52.21 (a)(2)(iii) to determine whether a significant net emissions increase under a physical change or change in the method of operation would occur; and (2) the 40 CFR 52.21(r)(4) test which treats a modification "as though construction had not yet commenced on the source or modification." Each applicability test is to have its own

baseline period and contemporaneous period that will be different for each test. The general applicability review in accordance with the first citation above would subject a modification to the PSD requirements in those cases where a physical change or a change in the method of operation would result in a significant emissions increase of a regulated pollutant. In the subject case, the change in the method of operation is the increase in the permitted annual turbine capacities, from 15.4% to 18.6% at the Burlington Station and from 13.2% to 16.8% at Kearny. PSE&G performed such an applicability review, delineated in its December 3rd letter, in which it was asserted that the Burlington and Kearny Station projects are not PSD affected under 40 CFR § 52.21 (a)(2)(ii). However, in order for EPA to evaluate your determination, as you have requested, we will need additional information, including: (1) substantiations for all calculations provided such as how they were determined, and any and all assumptions made; and (2) more documentation on the contemporaneous emission increases and decreases, including calculations, assumptions, and the federal enforceability of the emission changes. This information is especially important relative to the "retired Burlington 10 unit," which may be outside of the contemporaneous period.

The second test, under 40 CFR § 52.21 (r)(4), has not been done. While you acknowledge in your December 3rd letter that EPA verbally communicated to your consultant our position that the aforementioned PSD provision would apply in this case, you have indicated that you disagree with this interpretation. In your letter, you state that PSE&G did not originally propose limits to these turbines with the intent of subsequently requesting minor annual capacity increases that would also avoid new source review, which you call "sham" permitting. It was also noted that at the time of initial permitting of these LM6000 turbines, PSE&G did not contemplate the need to relax the operational restrictions of the turbines within several years, and only requested the relaxations based on New Jersey's proposed high electric demand day regulations. Regardless, EPA remains of the opinion that the (r)(4) provision applies in this case. This PSD provision does not discuss intent; it simply states that any relaxation of an established limit that would make the project "major" would at that point in time make PSD applicable. That is, the (r)(4) provision must be considered for the life of any project for which enforceable limits were established such that any subsequent requests for a relaxation of the aforementioned limitations will necessitate their review within the originally-issued permits.

To fulfill your request that we verify your PSD applicability review of the annual heat input increases for 8 General Electric LM6000 combustion turbines at the PSE&G Burlington and Kearny Generating Stations, you must provide an applicability review pursuant to 40 CFR 52.21(r)(4). Such a review must delineate the emissions from the turbines that correspond to the entire 18.6% and 16.8% capacities, as well as the contemporaneous emissions changes based upon the time of the initial permitting (that is, contemporaneous from the commencement of construction of the units, during the years 2000 and 2001). Information and documentation as described above for the emission calculations and contemporaneous emission changes should be submitted to this office for our review to be made. In this case, EPA requests that PSE&G use the actual

commencement of construction date for the contemporaneous emission period rather than the projected date of construction that we presume was originally used.

Once the requested documentation is provided to this office, we will complete our PSD applicability review. If you have any questions regarding this letter, please call me at (212) 637 - 4074 or Mr. Gerald DeGaetano at (212) 637 - 4020.

Sincerely,

s/

Steven C. Riva, Chief
Permitting Section
Air Programs Branch

cc: John Preczewski, NJDEP

APPENDIX 1.3

PFIZER DETERMINATION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

SEP 23 2015

Mr. Ramon Frontanes, Site Leader
Pfizer Pharmaceuticals LLC
Barceloneta Site, Rd. 2, KM 58.2
P.O. Box 628
Barceloneta, Puerto Rico 00617

Re: Prevention of Significant Deterioration (PSD) Non-Applicability- Pfizer Pharmaceuticals LLC's Proposed Modification

Dear Mr. Frontanes:

The U.S. Environmental Protection Agency's Region 2 Office (EPA) received Pfizer Pharmaceuticals LLC, Barceloneta Plant's (Pfizer) July 30, 2015, letter, in which it requested EPA's determination whether the PSD regulations codified under 40 CFR 52.21 will apply to Pfizer's proposed modification. Pfizer is proposing to remove an existing oil-fired Heat Recovery Steam Generator (HRSG) and install three new 11.5 MMBtu/hr liquified petroleum gas (LPG)-fired steam boilers. It is also requesting that its current PSD non-applicability related Nitrogen Oxide (NOx) potential to emit (PTE) emission limit be raised from 56 tons year to 90 tons/year. Pfizer stated that it currently is and it will continue to remain a "synthetic minor" source for PSD and title V purposes; therefore, Pfizer maintains that the existing 56 tons/year NOx PTE limit required pursuant to its 1994 project cannot be considered a relaxation of an emission limit which would otherwise trigger a PSD review under 40 CFR § 52.21 (r)(4). Based on the review of the information Pfizer provided in its letter and in e-mails to EPA through September 1, 2015, it appears that Pfizer's proposed modification will not trigger PSD and that its current NOx limit may be revised from 56 tons/year to 90 tons/year.

Background

Prior to 1994, Pfizer, an active pharmaceutical ingredients manufacturing facility, operated two residual oil-fired (16.5 MMBtu/hour) boilers and four 255 HP fire engines. It did not have a PSD permit but at the time it was an existing major source for PSD applicability purposes because it was a "PSD source category" and its boilers' sulfur dioxide and process-related volatile organic compounds (VOC) PTE exceeded the 100 tons/year major source threshold. The NOx PTE at the time was 55 tons/year. In 1994, under its Utility Plant Expansion Project, Pfizer proposed to remove the two residual oil-fired boilers and install the following: 1) 5 new diesel generators (each with its own selective catalytic reduction (SCR) unit and all of these then connected downstream to a combined secondary SCR); 2) a 37.5 MMBtu/hour No. 2 oil-fired HRSG at the Engines' exhaust and 3) a 37.5 MMBtu/hour oil/LPG-fired steam boiler. Pfizer's PSD non-applicability analysis in 1994 indicated that its net change in sulfur dioxide emissions would be negative whereas its NOx net change in emissions would be 28.88 tons/year. Therefore, its NOx PTE was estimated at 54.44 tons/year. To avoid PSD, Pfizer proposed to limit its total combined fuel oil usage to 6.4 million gallons per year and operate each engine to no more than 7500 hours/year. On November 30, 1995, EPA determined that Pfizer's PSD non-applicability request was approvable and also asked that Pfizer limit its NOx PTE to 56 tons/year. EPA notes that

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Pfizer's current non-applicability request is not proposing to revise any other operational limits required pursuant to EPA's 1995 determination.

The Puerto Rico Environmental Quality Board (EQB) issued a Construction Permit to Pfizer in 2002, which was revised in 2008, 2010, 2012 and 2014. The current EQB Construction Permit allows construction of 5 diesel generators, a 37.5 MMBtu/hr HRSG, a 37.5 MMBtu/hr oil/LPG boiler, and the 4- 255 HP engines. The permit also allows construction of new units which were not part of the original Utility Plant Expansion Project such as 4 fire engines, 3 thermal oxidizers (0.7, 0.1 and 0.1 MMBtu/hour), a 100 HP diesel generator, 3 gasoline generators (14 HP each) and 7 diesel generators (845 HP each). The 2002 permit limited each criteria pollutants' PTE to 90 tons/year and hazardous air pollutants' PTE to below 10/25 tons/year to keep the facility below the PSD/title V applicability's 100/25/10 tons/year thresholds. The permit further limits NOx PTE to 56 tons/year pursuant to EPA's 1995 non-applicability determination. These 2002 PTE limits have remained unchanged as of today despite subsequent changes to the permit in the years that followed to add more units. Pfizer is asking now to relax its PSD NOx limit to 90 tons/year in EQB's Construction Permit. It should be noted that Pfizer stated in its September 1, 2015, e-mail that the 3 gasoline (14 HP) and 7 (845 HP) diesel generators were permitted but never installed.

EPA Review

Pursuant to EPA's 1995 non-applicability determination, Pfizer completed its Utility Plant Expansion Project and operated the source at NOx PTE of 56 tons/year and process VOC emissions above 100 tons/year until 2002. There was no other change made to the Utility Plant during those years of operation. On October 2, 2002, EQB issued a Construction Permit to Pfizer limiting its PTE for all criteria pollutants, including VOC, to below 100 tons/year making the facility a "synthetic minor" source for title V and PSD purposes. The EQB permit also contained the original 1995 NOx PTE limit of 56 tons/year that had been requested by EPA in its PSD non-applicability section. Pfizer stated that it has continued to operate as a "synthetic minor" source for PSD and title V purposes since 2002. Its current proposal to remove the HRSG (37.5 MMBtu/hour) and replace it with three new LPG package boilers (11.5 MMBtu/hour each) will also not increase its 2002 PTE limits and Pfizer will continue to remain a "synthetic minor" source after the change.

EPA's review of the information indicates that Pfizer is not attempting to circumvent PSD applicability by requesting to increase the 1995 PSD non-applicability NOx PTE limit from 56 tons/year to 90 tons/year because the facility or the 1994 modification does not become a major stationary source or major modification solely by virtue of this NOx emission limit relaxation. In addition, the "synthetic minor" status has been maintained by Pfizer since 2002 and will continue to be maintained after the proposed modification. Furthermore, Pfizer is also not requesting any changes to its annual fuel and hours of operation restrictions put in place pursuant to the 1995 non-applicability determination. Therefore, Pfizer's request to revise the NOx PTE from 56 tons/year to 90 tons/year is approvable.

EPA notes, however, that the EQB permit authorized construction of 3 gasoline generators and 7 diesel generators that were never installed and are not expected to be constructed and, as such, must be removed from the EQB Construction Permit as a condition of this approval. EPA is not commenting on other specific changes that relate to the conditions in the Construction Permit that Pfizer is requesting in its July 30, 2015 letter since these changes are related to EQB's permit and EPA is asking EQB to take the lead on those discussions.

Please note that EPA's assessment of the proposed project is not final Agency action and is based on information solely provided by Pfizer. In the event that we learn of facts suggesting a different assessment of the project, EPA may revisit this issue, and invoke any necessary authorities under the Clean Air Act. However, we do not anticipate further action at this time. If you have any questions regarding this letter, please contact Mr. Umesh Dholakia at (212) 637-4023.

Sincerely,

Steven C. Riva, Chief
Permitting Section

cc: Leimarys Delgado, PREQB

R010834

PERMIT REVIEW TRAVELER SHEET

ID 119 813 AAI — US Steel- Granite City — Received 10/2/22 (Replaced 3/7/20 application)

95010001 — Granite City

Flag	Date	Section	Contact	Expiration Date
			Application Denied - Current Permit Remains As Is	

Emissions(Tons/Year)	CO	NOX	PM	SO2	VOM	Total HAP	Highest Single HAP
Current Allowable Rates							
Project/Total Increase	Application Denied - No change						

Initial Completeness	Analyst	Unit Manager	Date of Determination	Application Complete?
CAAPP Completeness ☐ N/A				☐ Yes ☐ No
Fee Completeness ☐ N/A				☐ Yes ☐ No
Technical Completeness				☐ Yes ☐ No

Welcome Phone Call to Permit Applicant

Date	Contact Name	Telephone#	Was Additional Information Requested?
12/23	US Steel Team		Informed of planned denial (follow up in 7/23)

For Incomplete Applications Type of Letter Sent	Analyst	Unit Manager	Date Issued	Number of Items Requested (or Amount of Fee Requested)
Notice of Additional Fees:				$
Notice of Incompleteness(NOI)				
Request for Addditional Information(RAI)				
All Required Information Received?	☐ Yes	☐ No	Date Received	
Notice of Intent to Deny CAAPP	CPR		7/21/23, 12/8/23	

Permit Processing		Analyst	Date	Unit Manager	Date
Draft Prepared for Unit Manager Review & Comments Returned to Analyst					
Final Draft Sent to Applicant for Comments					
Submitted to Word Processing					
Draft Permit to Community Relations	☐ N/A	7/21/23 12/8/23			
Public Comment Period Initiated		7/21/23, 12/8/23			
Public Hearing Date	☐ N/A				
Public Comment Period Completed	☐ N/A	5/8/24			
45 Day USEPA Comment Period	☒ N/A				
USEPA Comments Received	☐ Yes ☒ No				
Responsiveness Summary Completed	☐ N/A	5/8/24			
Public Participation Completed		5/8/24			

Final Action (Fill in One)	Analyst	Date	Unit Manager	Date
☐ Permit Not Required				
☐ Grant				
☒ Deny	MW & CPR	5/8/24	J. Schnepp	5/8/24

Mail-Out					
	☐ District Office	☐ Public Participation List	☐ Cook County	☐ Health Dept	
	☐ Enforcement	☐ Other	Init. MW	Date 5/8/24	

Permit Electronically Sent to	Applicant	CES	DLC	Community Relations	USEPA	AQPS	FOS
Person Sending (Initials)							

Illinois Environmental Protection Agency
Division of Air Pollution Control
1340 N. Ninth Street
Springfield, Illinois
November 1995

PROJECT SUMMARY
FOR PROPOSED ISSUANCE OF
A CONSTRUCTION PERMIT
FOR GRANITE CITY DIVISION OF NATIONAL STEEL CORPORATION

Applicant:
Name: Granite City Division of National Steel Corporation
Address: 20th and State Streets, Granite City

Contact Person: Larry Siebenberger
Contact Person Phone: (618) 451-3456

Project:
Project: Increased iron and steel production
Project Location: Southeastern Granite City

Plant Name: Granite City Division of National Steel Corporation
Location Identification Number: 119813AAI
Application Number: 95010001

Significant Dates:
Application Received: January 3, 1995
Public Hearing
Scheduled For: 7:00 p.m., Thursday, December 20, 1995
Comment Period Ends: January 19, 1996

Hearing Location: Granite City Township Hall, 2060 Delmar in Granite City, Illinois

Illinois EPA contacts:
Permit Section - Name: Jim Ross
Address: 1340 N. Ninth Street
P.O. Box 19506
Springfield, Illinois 62794-9506
Telephone: 217/785-1878

Telecommunications Device for the Deaf: 217/782-2143

Field Operations Sections - Name: Jeff Benbenek
Address: 2009 Mall Street
Collinsville, Illinois 62234
Telephone: (618) 346-5120

INTRODUCTION:

Granite City Division (GCD) of National Steel Corporation is a steel mill located on about 1100 acres of land largely within the city limits of Granite City. GCD has conducted iron and steel making at this site since 1878. The final product at GCD is in the form of flat steel coils. GCD has requested that the Illinois Environmental Protection Agency (Agency) issue a construction permit to allow an increase in iron and steel production.

The Agency has reviewed the permit application and concluded that the project complies with applicable state and federal regulations governing air pollution. As a result, the Agency has prepared a draft of a construction permit which would allow the production increase.

The project is considered significant under the federal Prevention of Significant Deterioration (PSD) rules for carbon monoxide (CO) and sulfur dioxide (SO2). The net emissions change is not considered significant for particulate matter (PM), particulate matter less than or equal to 10 microns in size (PM-10), nitrogen oxides (NOx), volatile organic material (VOM), and lead.

DESCRIPTION OF OPERATIONS:

GCD operates an integrated steel mill. An integrated steel mill starts with iron ore, reduces this material to iron, and then converts this iron to steel. Equipment used includes blast furnaces, basic oxygen furnaces, and continuous casters.

Iron Production

The iron making process begins at two blast furnaces where iron ore, steel scrap, coke, limestone, fluxing agents, and large quantities of hot air react to produce molten iron (a.k.a. hot metal). A by-product "blast furnace gas" is collected at the top of the furnace and is used as a fuel, primarily in stoves to heat the air used in the furnace.

Steel Production

The molten iron is then transported to the basic oxygen furnace (BOF) shop for conversion to steel. After transfer to ladles, the sulfur content of the molten iron is reduced at a desulfurization station. Next, the iron is poured into one of two identical BOF vessels along with steel scrap, limestone and other flux forming materials. A large pipe known as a lance is then lowered down through a hole in the lid of the BOF to within a foot of the iron. Oxygen is then blown into the BOF through the lance, thus burning or oxidizing the carbon in the iron and converting the iron to steel. The liquid steel is then

transferred to the ladle metallurgy station where the properties of the steel may be adjusted by adding alloying materials prior to casting.

Casting

Two continuous casters are used to produce solid steel slabs from the liquid steel. The liquid steel is poured into the top of water-cooled caster molds where it is continuously shaped and cooled until the desired steel slab emerges from the bottom of the mold. The slabs are then cut to the desired length for further processing.

Ancillary Activities

GCD uses several large boilers to provide steam for use in the plant. Fuel is also combusted in the blast furnace stoves, slab reheat furnaces, and several smaller units such as ladle preheaters. For fuel, GCD utilizes the by-product blast furnace gas, as well as by-product coke oven gas, and natural gas and oil.

GCD also operates a coke plant, coke by-products recovery plant, and cold and hot steel rolling operations. No changes in these operations are expected.

DESCRIPTION OF PROPOSED PROJECT:

GCD is requesting an increase in the allowable production rate of iron at the blast furnaces and steel at the basic oxygen furnaces. Continuing improvements in the science of steel making (e.g., higher yield ores, longer life refractory furnace linings, and better timing of equipment maintenance) have enabled increased production from GCD's existing furnaces. Only minor physical changes are needed for the proposed increases (e.g., increased capacity of blast furnace stove blowers).

EMISSIONS:

The operations at GCD are sources of emissions and various control measures are used to minimize these emissions. In particular, the emissions of particulate matter at the blast furnace when tapping molten iron are controlled by a large baghouse, and a large electrostatic precipitator (ESP) is used to control the BOF vessel emissions.

Also of importance to this evaluation are other projects which have affected emissions and which have occurred over the last five years. These projects and the emission changes associated with them are summarized in Table 1.

TABLE 1- EMISSIONS SUMMARY (tons/year)

Other projects changing emissions since 1990	Date	PM/ PM-10	SO2	NOx	CO	VOM	Lead
Removal of blast furnace slag spout hood	1/90	+4.9					
Addition of #2 continuous caster	12/90	+11.7					
Shutdown of ingot teeming operations	4/91	-22.4					
Shutdown of blooming mill	4/91	-3.38	-0.34	-217.8	-22.1	-0.9	
Installation of NESHAP controls at Coke By-Products plant	7/91					-31.6	
Shutdown of batch annealing	12/91	-0.18	-0.04	-8.7	-1.2	-0.3	
Initiation of fugitive dust control program[1]	11/91 - present	-416					
Installation of #8 galvanizing line	96	+4.0/ +3.8	+2.0	+18.4	+10.2	+1.2	
Subtotal		-421.3/ -421.6	-0.18	-208.1	-13.1	-31.6	
Change in emissions from proposed production increase	96	-60.6/ +51.6	+475.8	+238.8	+5,685	+59.3	+0.54
Net change in emissions over the last 5 years		**-481.9/ -370.0**	**+470.3**	**+30.7**	**+5,672**	**+27.7**	**+0.54**
Net change in emissions over the last 5 years for purposes of NSR & PSD[2]		**-98.0/ +14.0**	**+470.3**	**+30.7**	**+5,672**	**+27.7**	**+0.54**

[1]Based on reduction in roadway emissions of 401 tons (428 - 27) and material handling of 15 tons (17 - 2).

[2]Cannot include some PM/PM-10 reductions from fugitive dust control since relied upon these reductions in the implementation plan used to demonstrate attainment with the NAAQS. Of the above 416 tons, 32 tons is considered creditable for PSD and NSR.

R010838

APPLICABLE EMISSION STANDARDS:

All emission sources in Illinois must comply with Illinois Pollution Control Board emission standards. The Board's emission standards represent the basic requirements for sources in Illinois.

Applicable emissions standards for PM and PM-10 for the blast furnaces, BOF vessels, continuous caster, and other operations are found in 35 Ill. Adm. Code Part 212, specifically in Subparts B, K and R.

Fuel combustion unit emission standards are found in 35 Ill. Adm. Code Parts 212, 214, 216, and 217.

After reviewing the technical material in the application, the Agency has determined that the operations at GCD should comply with all applicable standards.

ADDITIONAL REQUIREMENTS FOR MAJOR PROJECTS:

Regulations which address the affect of a project on the air quality are found in 35 Ill. Adm. Code Part 203 (NSR) and the federal rules for Prevention of Significant Deterioration (PSD) - 40 CFR 52.21.

Projects are required to meet additional requirements if the change in emissions is significant as shown below.

* Significant Levels for NSR and PSD:

PM-10	PM	NOx	SO2	CO	VOM	Lead
15	25	40	40	100	40	0.6

The increases in emissions of lead and VOM with increased production are not significant under NSR or PSD.

The increase in emissions of NOx are being accompanied by contemporaneous emission decreases provided by the shutdown of equipment and operations such that the net emissions change is not significant under NSR or PSD.

The increase in emissions of PM and PM-10 are being accompanied by contemporaneous emission decreases provided by the shutdown of equipment and operations, additional road dust control, and improvements to BOF emissions capture system such that the net emissions change is not significant under NSR or PSD.

The increases in emissions of SO2 and CO are significant under PSD. Accordingly, the project is considered a major modification and must comply with the requirements of PSD.

The requirements of PSD include a demonstration that best available control technology (BACT) will be used for SO2 and CO emissions at affected units, an analysis of air quality impacts, and an analysis of the impacts of the project on visibility, vegetation's and soils. The Agency has determined that these requirements have been met.

GCD has shown that work practices used for SO2 and CO constitute BACT as used by other steel mills for these pollutants. The air quality analysis included with the application shows that increased production will not cause a violation of the NAAQS for SO2 or CO. Increased production also will not significantly affect soils, vegetation, or visibility.

DISCUSSION OF PM-10 ATTAINMENT STATUS:

Of special concern for this project is the emissions of PM-10, since GCD is located in an area that is designated as nonattainment for PM-10 air quality. The Agency is currently working to reclassify the Granite City area from nonattainment with the National Ambient Air Quality Standard (NAAQS) to attainment. The modeling evaluation performed by the Agency shows that the area will continue to comply with the PM-10 air quality standards at the level of emissions associated with the requested increase in production. This is in part due to the stringent levels of control now required to control process emissions and fugitive emissions from roadways and material handling. These measures have resulted in substantial reductions in PM-10 emissions in the area, such that the last exceedance of the PM-10 air quality standard was monitored in 1990. It is also due to substantial improvements made by GCD to the BOF control system. In particular, GCD has added a fourth section to the BOF ESP at an approximate cost of $7,000,000. This provides additional capacity for the ESP to collect and control emissions from the BOF and reduce the amount of uncaptured PM-10 that would otherwise escape through the top of the BOF shop. As part of this permit, GCD will now be required to comply with a more stringent limit on uncaptured emissions, i.e., 20 percent opacity on a three minute average versus the current limit of 30% opacity on a six minute average.

Emissions modeling performed by the Agency shows that the PM-10 NAAQS will be met at the emission levels which could occur at the proposed rates of increased production. That is, modeling shows that the air quality will meet the national standard after this project.

In addition, GCD has also agreed to further control emissions through the sweeping of key Granite City public streets and through housekeeping and sweeping measures in the area below and surrounding the BOF ESP. These reductions are not included in the formal accounting of emissions, but will lower emissions levels in Granite City. Finally, GCD has recently started using a state of the art Enviro-Whirl™ road sweeper which should provide even better dust control from plant roads.

CONTENTS OF PERMIT:

The permit specifies required control practices to ensure that all applicable emission limits and requirements are met both initially and on a continuing basis. The permit also contains conditions on emissions, operations, production, recordkeeping, compliance procedures, testing, and reporting.

REQUEST FOR COMMENTS:

It is the Agency's preliminary determination that the proposed project meets all applicable State and Federal air pollution control requirements. Accordingly, the Agency is proposing to issue a permit for this project.

Comments are requested by the Agency on the proposed issuance of this permit and the proposed conditions of the draft permit. Comments must be addressed to the Illinois Environmental Protection Agency, Division of Air Pollution Control, Attention: Jim Ross, P.O. Box 19506, Springfield, Illinois 62794-9506.

G-PROJSU.DOC

State of Illinois
ENVIRONMENTAL PROTECTION AGENCY

Mary A. Gade, Director
217/782-2113

P. O. Box 19506, Springfield, IL 62794-9506

DRAFT 11/03/95

CONSTRUCTION PERMIT

PERMITTEE

Granite City Division
of National Steel Corporation
Attn: Joseph S. Kocot
20th & State Street
Granite City, IL 62040

Application No.: 95010001 I.D. No.: 119813AAI
Date Received: January 3, 1995
Subject: Production Increase
Date Issued:
Location: Southeastern Granite City

Permit is hereby granted to the above-designated Permittee for an increase in the allowable production rate of iron (from 2,372,500 to 3,165,000 net tons per year) and steel (from 2,774,000 to 3,580,000 net tons per year) as described in the above-referenced application. This permit is subject to standard conditions attached hereto and the following special conditions:

1. Prior to issuance of this permit, a draft of this permit has undergone a public notice and comment period, and a public hearing was held.

BLAST FURNACE OPERATIONS

2a. Total combined production of hot metal (a.k.a., iron) from blast furnaces A and B shall not exceed 9,849 net tons per day, averaged over any calendar month, and;

b. Total combined production of hot metal from blast furnaces A and B shall not exceed 3,165,000 net tons per year.

3a. Particulate emissions from the blast furnace casthouse baghouse and iron spout baghouse shall not exceed

0.010 gr/dscf, pursuant to 35 Ill. Adm. Code 212.445(b)(1).

b. The opacity of emissions from the blast furnace casthouse baghouse and the iron spout baghouse shall not exceed 10% on a 6 minute rolling average basis, pursuant to 35 Ill. Adm. Code 212.445(b)(1).

4a. Emissions of particulate matter from any opening in the blast furnace casthouse shall not exceed 20% opacity on a 6-minute rolling average basis beginning from initiation of the opening of the tap hole up to the point where iron and slag stops flowing in the troughs, pursuant to 35 Ill. Adm. Code 212.445(a)(1).

5. Emissions from Blast Furnace operations shall not exceed the limits in attached Tables 1 and 5.

BASIC OXYGEN FURNACE SHOP

6a. Total combined production of liquid steel from the Basic Oxygen Furnaces (BOF's) shall not exceed 11,000 net tons per day, averaged over any calendar month, and;

b. Total combined production of liquid steel from the BOF's shall not exceed 3,580,000 net tons per year.

7a. The emissions of PM-10 from the BOF ESP stack for the total of all BOF processes (i.e., operations from the beginning of the charging process through the end of the tapping process) shall not exceed 0.225 lbs PM-10 per ton of steel produced, and;

b. The emissions of PM-10 from the BOF ESP stack for the total of all BOF processes (i.e., operations from the beginning of the charging process through the end of the tapping process) shall not exceed 60.0 lbs/hr. Notwithstanding the limitations set forth in special condition (a) above the emissions of PM-10 from the BOF ESP stack shall not exceed 60 lbs/hr for any one hour period.

8. Visible emissions from any opening in the BOF shop (e.g., roof monitor) shall not exceed 20% on a 3 minute rolling average basis.

9a. The Permittee shall determine the opacity from the BOF roof monitor on at least a weekly basis.

Observations shall be conducted for at least an hour or the entire BOF cycle, whichever is greater.

b. The Permittee shall determine the opacity from the BOF ESP stack for at least one hour on any normal work day (i.e., Monday through Friday) that the continuous opacity monitor on the BOF ESP stack has an outage that exceeds two consecutive hours and is still down. The readings shall commence as soon as possible after the opacity monitor has been down for two consecutive hours. If meteorological conditions or lack of visibility preclude these observations from being conducted, then this shall be noted in the log book.

c. The opacity shall be determined in accordance with the observation procedures set out in 40 CFR Part 60, Appendix A, Method 9.

d. These determinations shall be recorded in a log book, which includes the date and time of observations, name and title of observer, individual opacity readings, calculated opacity so as to determine compliance with Section 212.123, and calculated opacity relative to 20% opacity on a three minute rolling average basis.

10. The Permittee shall follow the BOF operating procedures and requirements specified in attachment A. These requirements are designed to ensure proper operation of the BOF control system. These procedures shall be posted in the BOF pulpit (a.k.a., control room).

11. Flame suppression shall be used and maintained during the entire tapping process.

12a. The stack gas pulpit set point of the BOF ESP control system shall be set in accordance with the following, so as to establish sufficient particulate matter capture efficiency of the charging and primary hoods:

i. Set point requirements while only a single BOF vessel is in operation;

A. Minimum set point during charging process: 550,000 cfm;

B. Minimum set point during refining process: 650,000 cfm;

C. Minimum set point during tapping process: 200,000 cfm (until one minute after completing alloy addition);

ii. During dual operation of BOF vessels (a.k.a., overlapping BOF operation) the set point shall be set to establish the total draft necessary to control the corresponding portion of the process which is occurring on each vessel during the overlap. For example, minimum set point while charging at one vessel and tapping at the other would be equal to that necessary to establish a flow of 700,000 cfm (i.e., 550,000 + 150,000).

iii. Overlapping operations of the BOF vessels is allowed only as specified in operating permit application number 72080043.

iv. The BOF capture system shall be operated at the above minimum set points until and unless the Agency approves a lower minimum setpoint based on a demonstration that a better level of particulate matter control will occur, except for purposes of emissions testing as related to the set point.

b. The Permittee shall calibrate, operate, and maintain a continuous strip chart recorder of the stack gas flow rate as measured by the stack gas flow meter during ESP use.

c. The Permittee shall record for each steel production cycle the various stack gas flow rates for each process (i.e., for each charge, each refine, each tap) of each steel production cycle. That is, the Permittee shall be able to distinguish the measured flow rate of stack gas during each production cycle.

d. The stack gas flow meter shall be calibrated on at least a quarterly basis.

13a. Within 270 days of the date issued of this permit, the Permittee shall install, calibrate, operate, and maintain a monitoring device that continually measures and records for each process (i.e., for each charge, each refine, each tap) of each steel production cycle the various exhaust ventilation rates or levels of exhaust ventilation through the main downcommer duct of the ESP emissions capture and transport system.

b. The monitoring system shall be designed to be used as a mechanism to ensure sufficient draft is maintained in the emissions capture hoods and transport ducts so as to maximize emissions capture and transport and minimize uncaptured emissions and emission leaks.

c. The monitoring system shall be operated, tested and maintained to ensure accurate and useful data.

d. The Agency may allow an equivalent system or method instead of the above monitoring system provided the Permittee demonstrates, and the Agency approves, that such system or method will ensure sufficient draft is maintained in the emissions capture hoods and transport ducts so as to maximize emissions capture and transport and minimize uncaptured emissions and emission leaks in an equivalent manner, and that such system or method can be installed and operated within the time period required for the monitoring system as stated in this permit.

14a. The Permittee shall visually inspect at least monthly all visible hooding and ducts used to capture and transport emissions for the BOF ESP control system.

b. A log shall maintained of these inspections which includes observations of the physical appearance of the capture system and any noted deficiencies (e.g., the presence of any holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion).

c. Any leaks or areas otherwise noted to be in need of repair, shall be repaired as soon as practicable.

15a. The Permittee shall operate, maintain, and repair the BOF ESP in a manner that assures compliance with the conditions of this permit.

b. An adequate inventory of spare parts for the BOF ESP shall be maintained.

16. Written operating procedures for the BOF ESP shall be maintained and updated describing proper normal process and equipment operating parameters, monitoring and instrumentation for measuring control equipment operating parameters, control equipment inspection and maintenance practices, and the availability of spare parts from inventory, local suppliers and other sources.

17. The Permittee shall keep operating records, a maintenance log, and inspection log for the BOF ESP and associated control systems which includes the following:

i. Operating time of the BOF;

ii. Operating time of the capture systems and performance parameters, including air flow and fan amperage through each fan motor, gas temperature at inlet to ESP, and steam injection rate;

iii. Operating time of the ESP and performance parameters, including voltage and amperage of each section, number of sections in use;

iv. All routine and nonroutine maintenance performed, including dates and duration of outages, inspection schedule and findings, leaks detected, repair actions, and replacements.

18. Emissions from the BOF Shop shall not exceed the limits in attached Tables 2 and 5.

Note: For purposes of this permit, a BOF cycle is defined as the period from the beginning of the charging process through the end of the tapping process. The cycle is comprised of three main processes which are charging, refining, and tapping.

CONTINUOUS CASTING OPERATIONS

19. The continuous casting operations shall comply with 35 Ill. Adm. Code 212.450.

20. Emissions from the continuous casting operations shall not exceed the limits in Tables 3 and 5.

FUEL COMBUSTION

21. Total fuel usage for blast furnace stoves (A and B), boilerhouse boilers (1-10), blast furnace boilers (11 and 12), ladle drying preheaters and blast furnace gas flares shall not exceed the following limits:

i. Natural Gas usage: 190 million ft3 per month and 1,145 million ft3 per year;

ii. Blast Furnace Gas (BFG) usage: 30,800 million ft3 per month and 185,030 million ft3 per year;

iii. Fuel Oil usage: 60 thousand gallons per month and 365 thousand gallons per year.

22. Emissions from the fuel combustion units listed above shall not exceed the limits in Tables 4 and 5.

ON-SITE FUGITIVE DUST CONTROL

(Refer to Attachment B for a table which summarizes the required on-site fugitive dust roadway control measures and maps indicating the referred to road segments)

23. The Permittee shall immediately initiate and maintain the on-site fugitive dust control measures specified in this permit.

24a. The Permittee shall sweep or flush at least every day the paved access area below the BOF ESP where ESP dust collection bags are used, stored and transported.

b. The Permittee shall implement a housekeeping program for the non-roadway areas below and around the BOF ESP. This program shall, at a minimum, contain the following:

i. The ground and other accessible areas where dust may gather shall be swept or cleaned at least every day;

ii. Cleaning shall be performed in such a manner as to minimize the escape of dust into the atmosphere;

iii. Dust collection bags shall be inspected at least daily for rips, tears, or insecure connection to the discharge chutes of the ESP hoppers;

iv. Dust collection bags shall be inspected after removal from, and connection to, the discharge chutes of the ESP hoppers;

v. Ripped or torn bags shall be taken out of service and transported as soon as practicable in a covered truck.

25. Fugitive emissions of particulate matter from any roadway or parking area shall not exceed an opacity of 5%, pursuant to 35 Ill. Adm. code 212.316(e)(1).

26a. UNPAVED ROADS: On unpaved roads that are part of normal traffic patterns as identified in attachment B (including roads B, C, E, N, F-F, and CS(2)) the Permittee shall apply a chemical dust suppressant at least three times a month, with the following exceptions:

i. Road segment G-G, which shall be sprayed at least quarterly;

ii. Road segments P, V, Z, D-D, E-E, and H, which shall be sprayed at least 4 times per month until paving is completed. Paving shall be completed on these roads no later than July 31, 1996;

iii. Road segment L, which shall be sprayed at least 4 times per month.

b. All other unpaved roads shall be treated as necessary.

c. Applications of suppressant may be less frequent than specified above if weather conditions, i.e., precipitation or temperature, interfere with the schedule for spraying, provided each such instance shall be recorded in accordance with the daily records for on-site fugitive dust control required by this permit.

27a. PAVED ROADWAYS AND AREAS: Paved roadways and areas shall be maintained in good condition.

b. On paved roadways and other areas, the Permittee shall sweep or flush as follows:

i. Road segments D, K, M, F, G, J, R, and O shall be swept or flushed at least daily;

ii. Road segments P, V, W, X, Z, D-D, E-E, and CS(1) shall be swept or flushed at least five days per week;

iii. Road segments S and T shall be swept or flushed at least every other day;

iv. Road segments A and H shall be swept or flushed at least once per month;

v. All gate areas leading from the Steelworks area shall be swept or flushed at least daily;

vi. All gate areas leading from the Ironmaking area shall be swept or flushed at least five times per week.

28. The above on-site dust control measures shall be conducted to maximize their effectiveness by performing said measures when the roads or areas are not normally obstructed by parked vehicles and by preferentially using filter sweeping (e.g., Enviro-Whirl sweeper) for the gate areas, the roads and areas surrounding the BOF and BOF ESP, and other key areas.

29. The Permittee shall maintain daily records relative to the on-site fugitive dust control program which includes the following information as a minimum:

i. The date (and time for the gate areas) each road or area was treated;

ii. The manner in which the road or area was treated (i.e., filter sweep, conventional sweep, suppressant spray or flush);

iii. Detailed information for use of dust suppressant, including but not limited to the application rate, dilution ratio, type of suppressant used, and the number of gallons of suppressant applied;

iv. Observations, if any, concerning the condition of the roadway, e.g., presence of parked vehicles, detection of potholes;

v. The amount of precipitation and temperature recorded for each day, and if determination was made to suspend application of suppressant, include name and title of person who made determination to suspend application and explanation;

vi. Any and all suspensions or deviations from the designated control procedures, with date, description, and explanation for suspension of application.

OFF-SITE FUGITIVE DUST CONTROL

30. The Permittee or the Permittee's Agent shall sweep or flush the following Granite City street road areas:

i. At least weekly, the quarter mile segment of 16th street in front of the 16th street gate (i.e., 1/8 of a mile in either direction);

ii. At least weekly, segment of 20th street between Lee and Quincy roads;

iii. At least monthly, segment of 20th street between Madison and Route 203 (a.k.a. Edwardsville Road).

PM-10 CONTINGENCY MEASURES

31. The Permittee shall comply with the additional control measures (e.g., PM-10 contingency plan) required by 35 Ill Adm. Code Part 212 Subpart U.

COMPLIANCE DETERMINATIONS

32a. Compliance with the daily limits of this permit shall be determined from a monthly total of the relevant daily data divided by the number of days in the month.

b. Compliance with the monthly limits of this permit (e.g., fuel usage) shall be determined by direct comparison of monthly data to the applicable limit.

c. Compliance with the annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total), except that compliance with annual iron and steel production limits shall be determined based on a calendar year.

33a. Compliance with opacity limits and measurements of opacity shall be made by opacity readings taken in accordance with the observation procedures set out in 40 CFR Part 60, Appendix A, Method 9.

b. The Permittee shall have at least two employees or agents experienced in making opacity readings to the extent that it is reasonably possible to do so, who

shall be able to make the opacity readings required by this permit.

34a. Blast furnace hot metal production shall be measured at the BOF hot metal transfer station, and adjusted by documented slag and iron losses.

b. BOF liquid steel production shall be initially measured by a scale equipped crane and adjusted based upon documented steel production analysis of the continuous casters.

c. BFG usage shall be calculated based on 0.0497 mmft3 BFG generated per net ton of hot metal produced.

d. Natural gas usage shall be determined by metered volumes.

e. Fuel oil usage shall be determined by tank height differentials.

RECORD KEEPING

35. The Permittee shall keep records of the following items and such other items which may be appropriate to allow the Agency to review compliance:

i. Blast Furnace hot metal production (total combined daily, monthly and annual in tons), including documentation on iron and slag losses;

ii. BOF liquid steel production (total combined daily, monthly and annual in tons), including documentation on adjustments made due to production analysis and losses;

iii. Fuel usage as follows; Usage of natural gas and BFG (total combined million ft3 per month and year, each) and fuel oil (total combined gallons/month and year) for the blast furnace stoves (A and B), boilerhouse boilers (1-10), blast furnace boilers (11 and 12), ladle drying preheaters and blast furnace gas flares.

36. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Agency and USEPA upon request. Any records retained in a computer shall be capable of

being retrieved and printed on paper during normal source office hours so as to be able to respond to an Agency request for records during the course of a source inspection.

STARTUP AND TESTING

37. The special conditions of this permit supplement the special conditions of any existing operating permits for this source, and supersede such conditions in cases where a conflict exists.

38. Operation at the increased production rates specified in this permit is allowed for 270 days from the date issued under this construction permit.

39a. The following tests shall be performed to demonstrate compliance with the conditions of this permit within 270 days from the date issued of this permit:

A. Blast Furnace testing: The emissions of particulate matter, volatile organic material, sulfur dioxide, nitrogen oxides, and the opacity from the blast furnace casthouse stack shall be measured. These tests shall be designed to verify compliance with 35 Ill. Adm. Code 212.445 and the requirements of this permit;

B. Hot Metal Desulfurization testing: The emissions of particulate matter from the desulfurization baghouse shall be measured. These tests shall be designed to verify compliance with the requirements of this permit;

C. BOF testing: The emissions of particulate matter, carbon monoxide, and lead from the BOF ESP stack, and the opacity from both the BOF ESP stack and BOF Shop shall be measured. These tests shall be designed to verify compliance with 35 Ill. Adm. Code 212.446, 212.458 and the requirements of this permit;

D. Fuel Combustion Units testing: The emissions of particulate matter from a representative boiler while burning blast furnace gas shall be measured. This test shall be designed to verify compliance with the requirements of this permit and the emission factor used (i.e., 2.9 lbs particulate emitted per mmcf BFG burned);

E. BFG generation testing: The amount of blast furnace gas generated (mmft3) per ton of hot metal produced shall be determined. The Agency may waive this requirement for testing providing the Permittee submit a sufficient explanation of how BFG generation is determined with justification that such determination is appropriate for purposes of compliance determinations with this permit.

b. These tests shall be performed by an approved independent testing service during conditions which are representative of maximum emissions and at the maximum production rates allowed, or as close to such rates as reasonable if the Permittee demonstrates to the Agency prior to testing that testing at such production rates within the time constraints of an Agency request to test is not practicable.

ci. The following methods and procedures shall be used for the testing, unless another method is approved by the Agency: Refer to 40 CFR 60, Appendix A for USEPA test methods;

Location of sample points	USEPA Method 1
Gas flow and velocity	USEPA Method 2
Particulate Matter	USEPA Method 5
Sulfur Dioxide	USEPA Method 6
Nitrogen Oxides	USEPA Method 7
Opacity	USEPA Method 9
Carbon Monoxide	USEPA Method 10
Lead	USEPA Method 12

ii. All particulate measured shall be considered PM-10 unless emissions are tested by an appropriate USEPA test method for measurement of PM-10, as specified in 35 Ill. Adm. Code 212.110(e).

d. At least 60 days prior to the actual date of testing of the BOF, a written test plan shall be submitted to the Agency for review and approval. This plan shall be describe the specific procedures for testing the BOF, including as a minimum:

i. The persons who will be performing sampling and analysis and their experience with similar tests;

ii. The specific conditions under which testing will be performed including a discussion of why these conditions will be representative of maximum

emissions and the means by which operating parameters for the source and the emissions capture and control system will be determined;

iii. The specific determinations of emissions and operation which are intended to be made, including sampling and monitoring locations;

iv. The test methods which will be used, with the specific analysis methods;

v. Any proposed use of an alternative test method, with detailed justification;

vii. The format and content of the Source Test Report.

e. The Agency shall be notified before these tests to enable the Agency to observe these tests. Notification for the expected date of testing shall be submitted a minimum of thirty (30) days prior to the expected date. Notification of the actual and expected time of testing shall be submitted a minimum of five (5) working days prior to the actual date of the test. The Agency may at its discretion accept notifications with shorter advance notice provided that the Agency will not accept such notifications if it interferes with the Agency's ability to observe testing.

f. The Final Report of these tests shall include as a minimum:

i. A tabular summary of results which includes:
- process weight rate and/or fuel usage rate
- production rate
- allowable emission limit
- measured emission rate
- determined emission factor
- compliance demonstrated - Yes/No
- other pertinent information (i.e., for the BOF, pulpit set point for each process of the BOF cycle - charging, refining, and tapping);

ii. Description of test methods and procedures used, including description of sampling train, analysis equipment, and test schedule;

iii. Detailed description of test conditions, including,
- pertinent process information (e.g. fuel or raw material consumption)

- control equipment information, i.e. equipment condition and operating parameters during testing;

iv. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration;

g. Copies of the Final Report for these tests shall be submitted to the Agency within 14 days after the test results are compiled and finalized and in no case later than upon the submittal of the operating permit application for this production increase.

h. Submittals of information shall be made as follows:

i. Notice of Test - one copy to Source Emission Test Specialist, one copy to Regional Office, and one copy to Permit Section;

ii. Final Report - one copy to Source Emission Test Specialist, one copy to Regional Office, and one copy to Permit Section.

Pertinent Addresses are:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Attn: Source Emission Test Specialist
Intercontinental Center
1701 1st Avenue
Maywood, Illinois 60153

Illinois Environmental Protection Agency
Division of Air Pollution Control
Regional Office
2009 Mall Street
Collinsville, Illinois 62234

Illinois Environmental Protection Agency
Division of Air Pollution Control
Attn: Permit Section
P.O. Box 19506
Springfield, Illinois 62794-9506

REPORTING

40. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Agency's Compliance Unit in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the record keeping requirements, a copy of the relevant records, and a description of the exceedance or violation, cause of the exceedance, and efforts to reduce emissions and future occurrences. This report shall be sent to:

Illinois EPA
Bureau of Air
Compliance Unit
P.O. Box 19276
Springfield, IL 62794-9276

41. The Permittee shall submit the following additional information from the prior calendar year with the Annual Emissions Report, due May 1st of each year:

i. Iron and steel production (tons/month and tons/yr, each);

ii. Natural gas and BFG usage (mmft3/month and mmft3/yr, each);

iii. Fuel oil usage (thousand gallons/month and thousand gallons/yr, for each type of oil).

APPLICABILITY OF MAJOR SOURCE RULES

42a. As a consequence of the above conditions, this permit is issued based upon the following changes in emissions, as further described in Table 6, accompanying increased production as allowed by this permit:

i. The increases in emissions of lead and VOM are not significant under 35 Ill. Adm. Code Part 203 or 40 CFR 52.21 - Prevention of Significant Deterioration;

ii. The increase in emissions of NOx are being accompanied by contemporaneous emission decreases provided by the shutdown of equipment and operations such that the net emissions change is not significant under 35 Ill. Adm. Code Part 203 or 40 CFR 52.21 - Prevention of Significant Deterioration.

iii. The increase in emissions of PM and PM-10 are being accompanied by contemporaneous emission decreases provided by additional road dust control and BOF capture and control such that the net emissions change is not significant under 35 Ill. Adm. Code Part 203 or 40 CFR 52.21 - Prevention of Significant Deterioration.

Also, the Permittee has agreed to provide further additional dust control consisting of the sweeping of Granite City public streets and housekeeping measures in the area below and surrounding the BOF ESP. Attachment C is a listing of the emission reductions provided by these control measures.

b. The increases in emissions of SO2 and CO are significant under 40 CFR 52.21 - Prevention of Significant Deterioration (PSD). Accordingly, the project is considered a major modification and must comply with the requirements of PSD. These requirements include a demonstration of best available control requirements for affected SO2 and CO emission units, an analysis of air quality impacts, an analysis of the impacts of the project on visibility, vegetation's and soils, and the application and proposed permit must undergo a public participation. The Agency has determined that these additional requirements have been met.

c. The changes in emissions pertinent to this project are summarized as follows:

Units = tons/year

- Emission increases which could occur from the project:

PM-10	PM	NOx	SO2	CO	VOM	Lead
51.6	(-60.6)	238.8	475.8	5,685	59.3	0.54

- Creditable contemporaneous actual emission decreases:

PM-10	PM	NOx	SO2	CO	VOM	Lead
58.0	58.0	226.5	0.38	23.31	32.8	0.0

* Other contemporaneous emission increases:

PM-10	PM	NOx	SO2	CO	VOM	Lead
20.4	20.6	18.4	0.2	10.2	1.2	0.0

* Net emission changes:

PM-10	PM	NOx	SO2	CO	VOM	Lead
+14.0	-98.0	+30.7	+475.6	+5,672	+27.7	+0.54

* Significant Levels:

PM-10	PM	NOx	SO2	CO	VOM	Lead
15	25	40	40	100	40	0.6

Explanatory Note:
PM = particulate matter = particulate;
PM-10 = particulate matter less than or equal to 10 micrometers in size;
SO2 = sulfur dioxide;
NOx = nitrogen oxides;
VOM = volatile organic material;
CO = carbon monoxide;
mm = million;
gr/dscf = grains per dry standard cubic foot;
acfm = actual cubic feet per minute;
mmcf = million cubic feet;
Mgal = thousands of gallons.

If you have any questions on this permit, please call Jim Ross at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES.JRR.G-PERM.DOC

cc. IEPA, FOS Region 3

Permit Application #95010001

TABLE 1

BLAST FURNACE OPERATIONS

Maximum Hot Metal Production = 3,165,000 net tons per year

1. Casthouse Baghouse (furnace tapping)- captured emissions ducted to baghouse, uncaptured emissions emitted through roof, other openings, etc.

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.0703	111.19
PM-10	0.0703	111.19
SO2	0.2006	422.0
NOx	0.0144	22.79
VOM	0.0946	149.68

2. Blast Furnace - uncaptured fugitives

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.0155	24.53
PM-10	0.0155	24.53
SO2	0.0104	16.46
NOx	0.0007	1.14
VOM	0.0047	7.42

3. Blast Furnace Charging
Maximum pellets charged = 4,308,581 tons/yr

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.0024	5.17
PM-10	0.0024	5.17

4. Slag Pits

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.00417	6.60
PM-10	0.00417	6.60
SO2	0.0100	15.83

Permit Application #95010001

TABLE 1 (cont.)

5. Iron Spout Baghouse- captured emissions controlled by iron spout baghouse.

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.02548	40.32
PM-10	0.02548	40.32
SO2	0.0073	13.89

6. Iron Pellet Screen
Maximum pellets charged = 4,308,581 tons/yr

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.00279	6.01
PM-10	0.00279	6.01

Permit Application #95010001

TABLE 2

BOF SHOP

Maximum Liquid Steel Production = 3,580,000 net tons per year

1. BOF ESP Stack (charge, refine, tap)

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.16	262.80
PM-10	0.16	262.80
NOx	0.0389	69.63
VOM	0.0060	10.74
CO	8.993	16,097.47
Lead	0.1934 lbs/hr	1.26 tons/yr

2. BOF Roof Monitor

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.0987	176.71
PM-10	0.06614	118.40
Lead	0.0129 lbs/hr	0.08 tons/yr

3. Desulfurization and Reladling - Hot Metal Transfer

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.03721	58.88
PM-10	0.03721	58.88
VOM	0.0010	1.58
Lead	0.0133 lbs/hr	0.09 tons/yr

Permit Application #95010001

TABLE 2 (cont.)

4. BOF Additive System (i.e., fluxes) with Baghouse, a.k.a., BOF hopper baghouse

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.00032	0.57
PM-10	0.00032	0.57

5. Flux conveyor & transfer pits, bin floor

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.0016	2.86
PM-10	0.0016	2.86

6. Hot metal charging ladle slag skimmer

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.0050	7.94
PM-10	0.0050	7.94

Permit Application #95010001

TABLE 3

CONTINUOUS CASTING OPERATIONS

Maximum Liquid Steel Throughput = 3,580,000 net tons per year

1. Argon Stirring Station and Material Handling Tripper (Ladle Metallurgy)

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.00715	12.80
PM-10	0.00715	12.80

2. Deslagging Station and Material HS.

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.00355	6.35
PM-10	0.00355	6.35

3. Caster Molds - Casting

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.006	10.74
PM-10	0.006	10.74
NOx	0.050	89.50

4. Casters Spray Chambers

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.00852	15.25
PM-10	0.00852	15.25

5. Slab Cut-off

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.0071	12.71
PM-10	0.0071	12.71

Permit Application #95010001

TABLE 3 (cont.)

6. Slab Ripping

Pollutant	Emission Factor (lbs/ton)	Maximum Emissions (tons/yr)
PM	0.00722	12.92
PM-10	0.00722	12.92

Permit Application #95010001

TABLE 4

CERTAIN FUEL COMBUSTION UNITS

1. 10 boilers (#'s 1 - 10)
2. 2 boilers (#'s 11 - 12)
3. Blast Furnace Stoves A & B.
4. BFG Flares
5. Ladle Drying Preheaters (5 heaters).

Total combined fuel usage from affected units (i.e., Boilers, BF stoves, BF Flares, ladle drying preheaters)

	Maximum Usage (mmft3/yr)
Natural Gas (total)	1,145
BFG	185,030

Fuel Oil 365 thousand gallons/yr

1. Natural Gas

Pollutant	Emission Factor (lbs/mmcf)	Maximum Emissions (tons/yr)
PM	5.1	2.92
PM-10	5.1	2.92
SO2	0.6	0.34
NOx	306	175.19
VOM	2.8	1.60
CO	40	22.90

2. BFG

Pollutant	Emission Factor (lbs/mmcf)	Maximum Emissions (tons/yr)
PM	2.9	268..29
PM-10	2.9	268.29
SO2	6.65	6,115.22
NOx	5.28	488.48
CO	13.7	1,267.46

Permit Application #95010001

TABLE 4 (cont.)

3. Fuel Oil

Pollutant	Emission Factor (lbs/Mgal)	Maximum Emissions (tons/yr)	
PM	9.72	1.77	
PM-10	9.72	1.77	
SO2	141.3	25.79	
NOx	55	10.04	
VOM	0.28	0.05	
CO	5.0	0.91	
Lead	0.336	0.61	(waste oil)

Permit Application #95010001

TABLE 5

LIMITS ON EMISSIONS FROM MAJOR PROCESSES AND ACTIVITIES

units = tons/year

	PM	PM-10	SO2	NOx	VOM	CO	Lead
Blast Furnace Operations	198	198	468	24	157	-	-
BOF Shop	510	451	-	70	11	16,097	1.43
Continuous Casting Operations	71	71	-	90	-	-	-
Certain Fuel Combustion Units[A]	273	273	6,141	674	2	1,291	0.61
Roadways	27	27	-	-	-	-	-
Material Handling	2	2	-	-	-	-	-

	PM	PM-10	SO2	NOx	VOM	CO	Lead
TOTAL	1,081	1,022	6,609	858	170	17,388	2.04

[A]Blast furnace stoves (A and B), boilerhouse boilers (1-10), blast furnace boilers (11 and 12), ladle drying preheaters and blast furnace gas flares.

Permit Application #95010001

TABLE 6

EMISSIONS SUMMARY

Units = tons/year

- Emission increases which could occur from the project:

PM-10	PM	NOx	SO2	CO	VOM	Lead
51.6	(-60.6)	238.8	475.8	5,685	59.3	0.54

- Creditable contemporaneous actual emission decreases:

PM-10	PM	NOx	SO2	CO	VOM	Lead
58.0	58.0	226.5	0.38	23.31	32.8	0.0

- Other contemporaneous emission increases:

PM-10	PM	NOx	SO2	CO	VOM	Lead
20.4	20.6	18.4	0.2	10.2	1.2	0.0

- Net emission changes:

PM-10	PM	NOx	SO2	CO	VOM	Lead
+14.0	-98.0	+30.7	+475.6	+5,672	+27.7	+0.54

- Significant Levels:

PM-10	PM	NOx	SO2	CO	VOM	Lead
15	25	40	40	100	40	0.6

Permit Application #95010001

ATTACHMENT A

PROCEDURES TO ENSURE PROPER OPERATION
OF BOF ESP CONTROL SYSTEM

1. The emissions control operator shall:

a. Check on a regular basis and report to the emissions control foreman or melter:

i. Any ESP fields down;

ii. Any ESP fields in which the meter readings are showing no current or a fault;

b. Check on a regular basis that doors on all hopper screws are closed;

c. Inspect on a regular basis the fans and motors for unusual sounds and/or visual problems. Any abnormalities will be immediately reported to the melter or maintenance foreman for investigation.

2. The melter shall:

a. Check on a regular basis and report to the emissions control foreman or the area electrician any fields which the pulpit precipitator field short indicators shows as having a short and is able to reset;

b. Check on a regular basis and report to the emissions control foreman or the maintenance foreman any draft or fan problems;

c Check the ESP stack opacity monitor on a regular basis and initiate the following in the event that the stack opacity level, as determined by the opacity monitor, exceeds 30% opacity on a six minute average:

i. Check the pulpit indicators for proper operation of the steam and spray water system. Report any problems to emission control foreman or maintenance foreman;

ii. Check the stack gas pulpit set point for proper setting;

iii. Call the emissions control operator who shall perform the following steps;

Permit Application #95010001

ATTACHMENT A (cont.)

A. Check the AVC operation and power level. Report any problems to electrical maintenance foreman or area electrician;

B. Check to ensure that doors on all hopper screws are closed;

d. Check oxygen blow rates and adjust, if necessary;

e. Check hot metal chemistry;

f. A log shall be maintained of the above checks and any actions taken as a result.

3. The emission control foreman shall:

a. Check on a regular basis the opacity monitor exceedances and trends. The control specialist shall be contacted to correct any problems;

b. Check on a regular basis the draft rate set points;

c. Check on a regular basis primary and secondary damper settings;

d. Check on a regular basis ESP operation, including the following:

A. Fields down;

B. Fields indicating shorts and unable to reset;

C. Hopper screw doors are closed;

e. Check on a regular basis blow rates;

f. Check on a regular basis spray water system operation;

g. Check on a regular basis steam injection rate;

h. Contact the area manager regarding electrical maintenance and to schedule the ESP repair work;

Permit Application #95010001

ATTACHMENT A (cont.)

i. Contact the area manger for mechanical maintenance to schedule the isolation of the ESP channel by closing the inlet and outlet gates of that chamber and opening the top hatches for entry into the chamber;

j. Notify the emissions control operator and melter when isolation work begins;

k. A log shall be maintained of the above checks and any actions taken as a result.

4. The crane operator shall use the following procedures, as appropriate, to minimize emissions and maximize emissions capture by the hoods:

a. Use controlled pouring of the hot metal into the BOF vessel;

b. Use careful positioning of the hot metal ladle with respect to the hood face and furnace mouth;

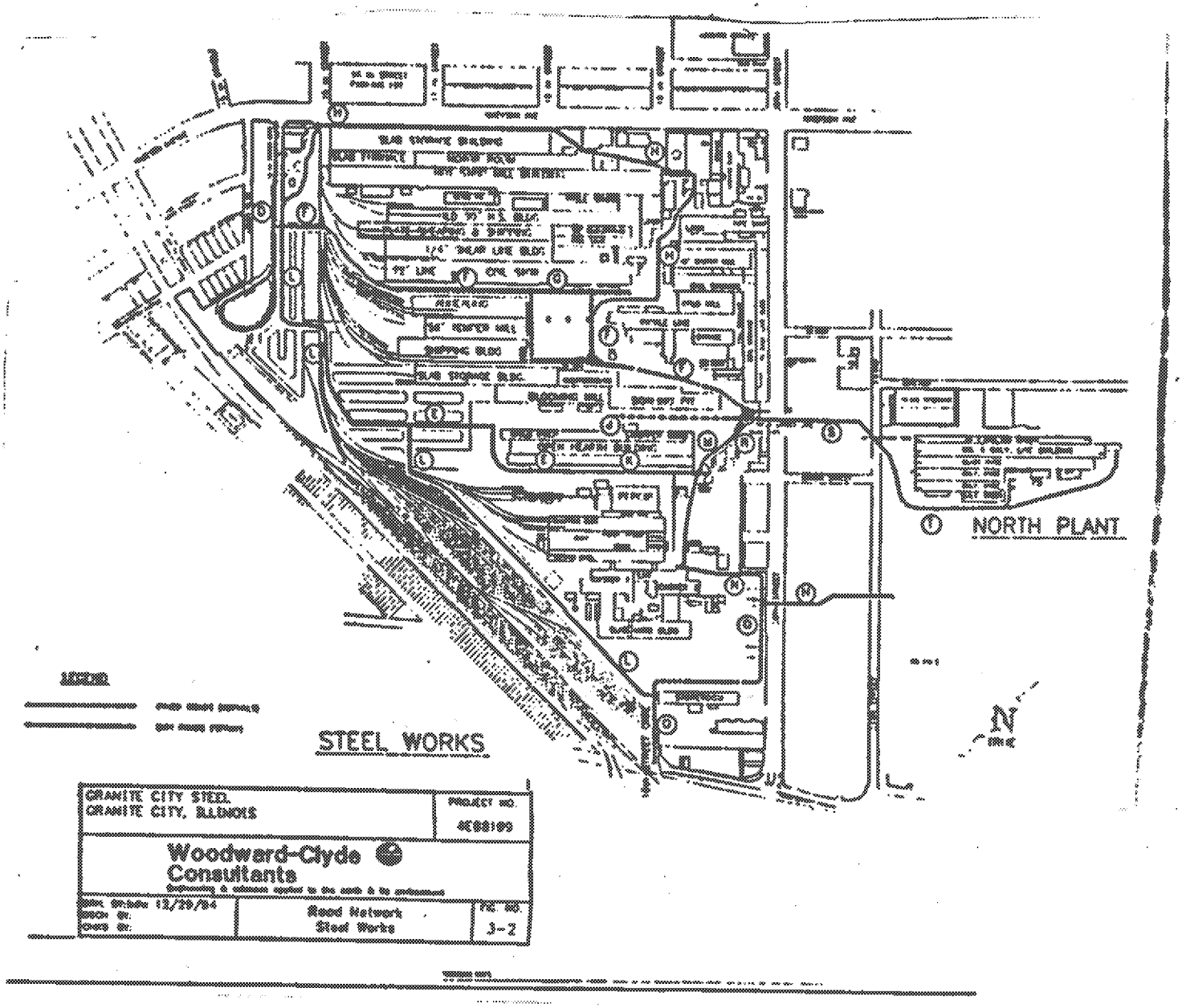
c. Use the most beneficial furnace tilt angle;

d. These procedures shall be posted in the crane operator booth.

Permit Application #95010001

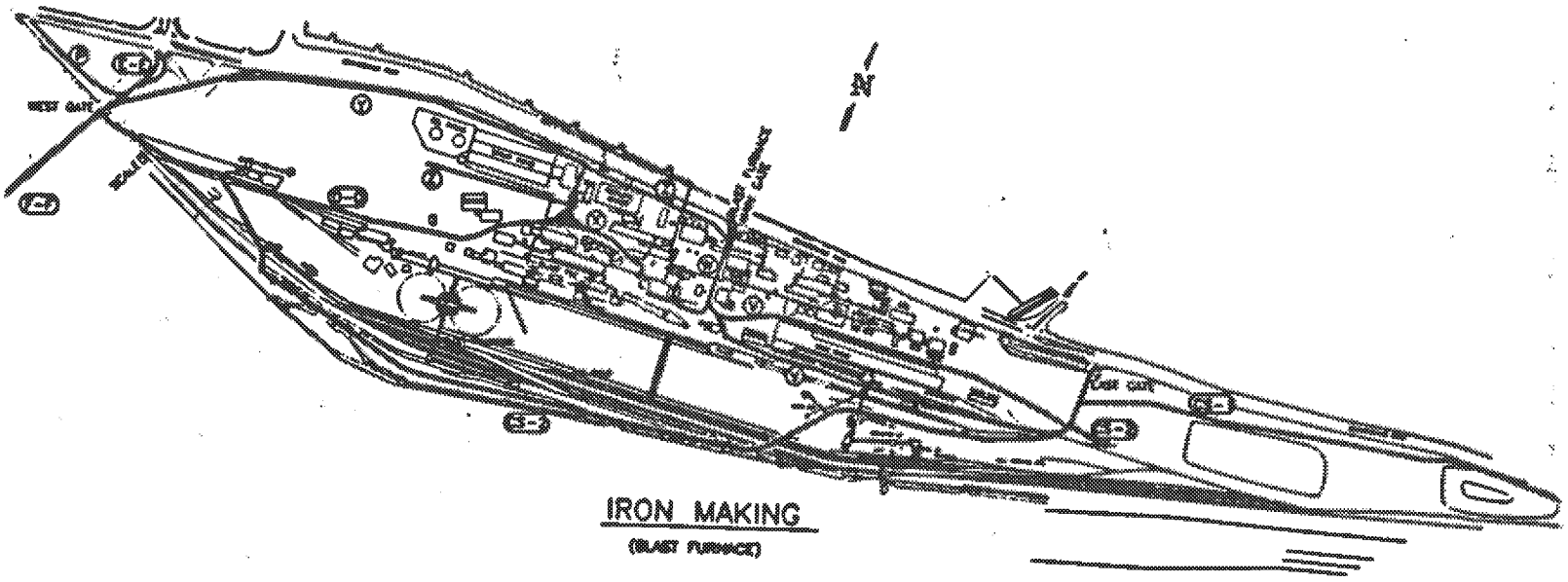
ATTACHMENT B

ON-SITE FUGITIVE DUST ROADWAY CONTROL MEASURES AND MAPS SHOWING THE ROAD SEGMENTS



Permit Application #95010001

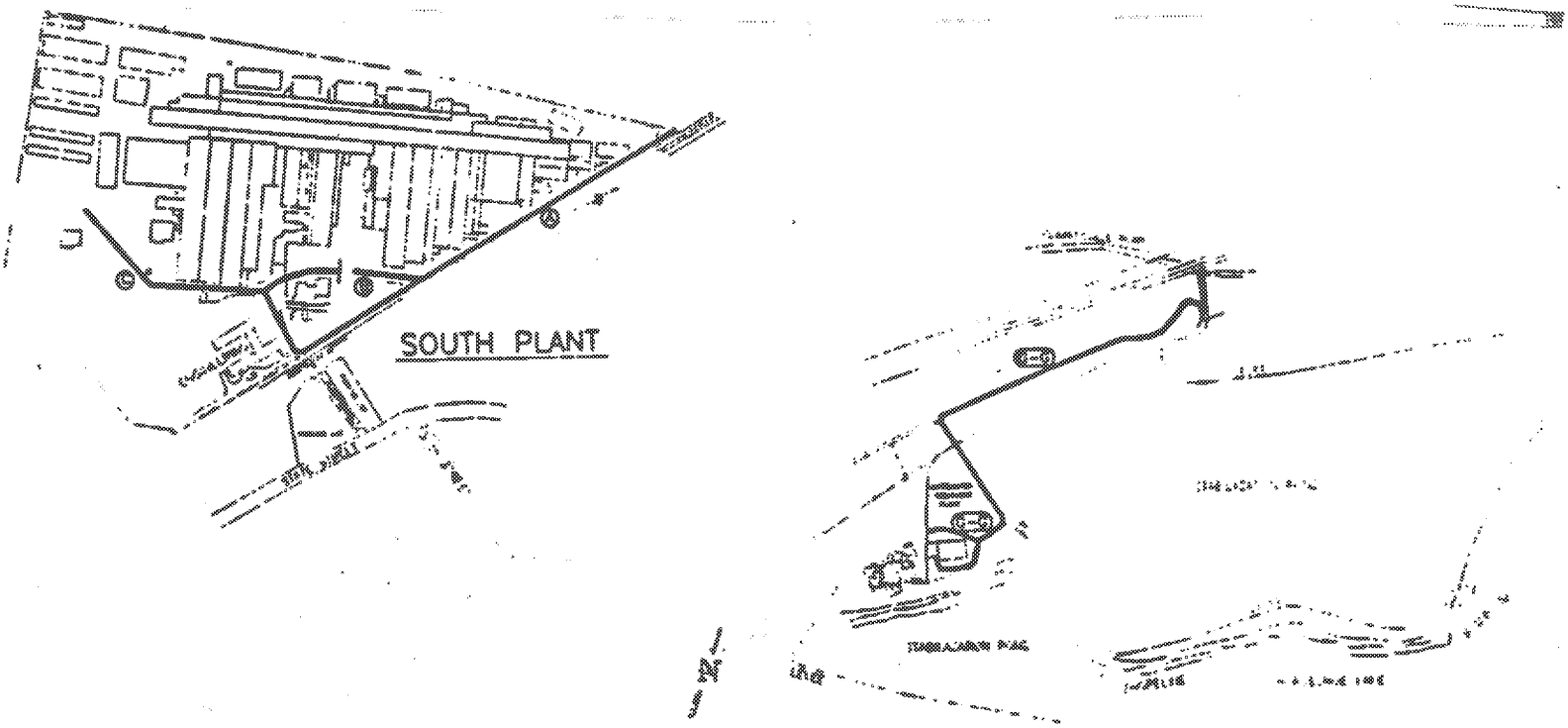
ATTACHMENT B (cont.)



GRANITE CITY STEEL GRANITE CITY, ILLINOIS	PROJECT NO. 4E05109
Woodward-Clyde Consultants	
DRWN BY: kdw 12/28/94 CHKD. BY: CHKD. BY:	Road Network Iron Making Area
	FIG. NO. 3-3

Permit Application #95010001

ATTACHMENT B (cont.)



GRANITE CITY STEEL GRANITE CITY, ILLINOIS	PROJECT NO 4E88199
Woodward-Clyde Consultants	
DRAWN BY: 12/29/94 DESIGN BY: CHKD BY:	Road Network South Plant & WWTP
FIG NO 3-4	

Permit Application #95010001

ATTACHMENT C

CONTEMPORANEOUS REDUCTIONS IN THE EMISSIONS OF PM-10

- Historic roadway emissions of 428 tons/yr, minus Future potential roadway emissions of 27 tons/yr, equals a resulting reduction in roadway emissions of 401 tons/yr

- Historic material handling emissions of 17 tons/yr minus Future potential material handling emissions of 2 tons/yr, equals a resulting reduction in material handling emissions of 15 tons/yr.

- Emission reductions resulting from the sweeping of city streets = 52 tons/yr*

- Emission reductions resulting from sweeping and housekeeping of areas below and around BOF ESP = 12 tons/yr*

Total reductions in the emissions of PM-10 as a result of the additional dust control measures required by Illinois' SIP and the special conditions of this permit = 480 tons/yr

*These are considered reasonable estimates of reductions and are subject to change upon further investigation of the actual reductions which will occur as a result of the control measures required by this permit.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
2200 CHURCHILL ROAD
SPRINGFIELD, ILLINOIS 62706

STANDARD CONDITIONS FOR OPERATING PERMITS

July 1, 1985

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

The following conditions are applicable unless superseded by special permit condition(s).

1. The issuance of this permit does not release the permittee from compliance with state and federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or with applicable local laws, ordinances and regulations.

2. The Agency has issued this permit based upon the information submitted by the permittee in the permit application. Any misinformation, false statement or misspresentation in the application shall be grounds for revocation under 35 Ill. Adm. Code 201.207.

3. a. The permittee shall not authorize, cause, direct or allow any modification, as defined in 35 Ill. Adm. Code 201.102, of equipment, operations or practices which are reflected in the permit application as submitted unless a new application or request for revision of the existing permit is filed with the Agency and unless a new permit or revision of the existing permit(s) is issued for such modification.

   b. This permit only covers emission sources and control equipment while physically present at the indicated plant location(s). Unless the permit specifically provides for equipment relocation, this permit is void for an item of equipment on the day it is removed from the permitted location(s) or if all equipment is removed, notwithstanding the expiration date specified on the permit.

4. The permittee shall allow any duly authorized agent of the Agency, upon the presentation of credentials, at reasonable times:

   a. to enter the permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,

   b. to have access to and to copy any records required to be kept under the terms and conditions of this permit,

   c. to inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,

   d. to obtain and remove samples of any discharge or emission of pollutants, and

   e. to enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring or recording any activity, discharge or emission authorized by this permit.

5. The issuance of this permit:

   a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are located,

   b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the facilities,

PROPOSED REVISIONS TO 35 ILL. ADM. CODE 212 October 30, 1995

The following summarizes the proposed revisions to the particulate rules in 35 Ill. Ad. Code 212.

I. USEPA identified four concerns in its conditional approval of Illinois' SIP revision for the Lake Calumet, McCook, and Granite City PM-10 nonattainment areas.

A. USEPA: The basic oxygen furnaces (BOF's) limitation of 30% opacity is equivalent to higher emissions than those appearing in the emissions inventory.

IEPA: The proposal tightens the opacity limit for uncaptured emissions from the Granite City Steel BOF roof monitors from 30% to 20% to insure that the emissions used in the attainment demonstration more closely estimate the actual emissions. Compliance shall be determined by Method 9, except that any 12 consecutive observations taken at 15 second intervals instead of 24 consecutive observations shall be averaged to determine compliance (See 212.446(c)). In addition, the company will be subject to .225 lb/ton of steel produced and 60 lb/hr limitations for the BOF stack.

B. USEPA: The coke oven regulations exempt coke oven sources from the general opacity limit.

IEPA: The proposal reinstates a 30% opacity limit for coke oven combustion stacks, except for the period when a leak at a coke oven is being repaired (See 212.443(g)(2)).

C. USEPA: The rules that apply to the foundry with electric arc furnaces in Granite City are not enforceable because the ventilators cannot be stack tested.

IEPA: The proposal includes a 20% opacity limit for all emission units at the foundry (See Section 212.458(b)(16)). The 20% opacity limit is considered equivalent to the current enforceable mass emission limits for the electric arc furnaces.

D. USEPA had 3 additional enforceability concerns: 1) The language in Section 212.207 concerning Method 22 is confusing; 2) Sections 212.107, 212.108, and 212.109 duplicate provisions in 212.110 but contain minor inconsistencies; and 3) The language in Sections 212.324(d), 212.362(c), 212.425(c), 212.458(c) and 212.464(c) exempting sources with no visible emissions from emission limits could be used as a defense to a finding of violation pursuant to a stack test.

IEPA: The proposal clarifies the language in Section 212.207, eliminates the duplication in Sections 212. 107, 212. 108, and 212.109, and all sections that had the exemption for visible emissions have been amended to state that it is not a defense to a stack test violation. The amendment will preserve the intent of the exemption which is that sources with no visible emissions will not be asked to stack test.

II. Clean-Up: The IEPA also proposes to make the following minor changes:

A. Clarification of Definitions and Test Methods

1. References to facility and emission source are changed to source and emission unit in order to be consistent with the new federal terminology.

2. Test Methods as they appear in Section 212.113 and elsewhere in the Part reflect the latest methodology (e.g., the Ringelmann chart is replaced by Method 9).

3. Consistent with other Agency rules, the definitions that appear in Section 212.185(a) concerning incinerators are moved to Part 211. Further, the definition in Section 211.4130 (Opacity), which references the Ringelmann chart is replaced by the definition from Section 240.102 for opacity.

4. The Sections referencing the words 'new' and 'existing' are revised by stating 'on or after April 14, 1972' and 'prior to April 14, 1972'. The same change is made for grain with the corresponding June 1975 date.

5. The confusing language of Section 212.302(a) (Geographic Applicability) has been clarified.

B. Administrative Revisions

1. References to the Illinois Revised Statutes are changed to the Illinois Consolidated Statutes [ILCS].

2. Sections 212.121 (relating opacity to the Ringelmann chart, which is no longer used), 212.209 (the expired rule for the Winnetka Generation Station), and 212.315 (Covering for Vehicles, voided by amendment to the Environmental Protection Act) are repealed.

3. At the request of the Office of the Secretary of State, several formatting changes have also been made (e.g. "above" or "below" changed to "of this Section").

C. The proposed rule allows a company that has a limitation on the number of magnesium pot furnace lines that could be run simultaneously be increased from one to two (See Section 218.458(24) and (25)). The only company impacted by this rule has made compensatory reductions elsewhere so that air quality will still be protected.