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Re: Hearings on General Iron NOVs?

Jennifer Hesse <Jennifer.Hesse@cityofchicago.org>
Tue 5/12/2020 10:49 AM

To: Dave Graham <Dave.Graham@cityofchicago.org>; Geertsma, Meleah <mgeertsma@nrdc.org>; Mort Ames <Mort.Ames@cityofchicago.org>
Cc: Kryczka, Heather <hkryczka@nrdc.org>; Harley, Keith (kharley@kentlaw.iit.edu) <kharley@kentlaw.iit.edu>; Nancy Loeb <n-loeb@northwestern.edu>

Hi all,

DOAH doesn't publish its decisions, but they can be requested through FOIA: https://www.chicago.gov/city/en/depts/ah/supp_info/ah_foia.html.

Also, CDPH posts the dispositions of all tickets, whether through contested hearing or settlement, on the data portal here:
https://data.cityofchicago.org/Environment-Sustainable-Development/CDPH-Environmental-Enforcement/yqn4-3th2/data

As Dave mentioned, the hearing officer typically issues the decision directly after the hearing. However, there have been a few instances when the hearing officer has continued the hearing to issue the decision at a later date. That's usually when the hearing runs long.

As you may know, in general DOAH's decisions typically involve only a finding of liable or not liable and imposition of a fine. There are no written opinions explaining the basis for the decision. (However, a transcript of the hearing can be requested in case of an appeal.)

Best,
Jennifer

Jennifer David Hesse
Staff Attorney
Environmental Permitting & Inspections
Chicago Department of Public Health
333 S. State Street, Rm. 200
Chicago, IL 60604
(312) 745-8222

From: Dave Graham <Dave.Graham@cityofchicago.org>
Sent: Tuesday, May 12, 2020 9:36 AM
To: Geertsma, Meleah <mgeertsma@nrdc.org>; Jennifer Hesse <Jennifer.Hesse@cityofchicago.org>; Mort Ames <Mort.Ames@cityofchicago.org>
Cc: Kryczka, Heather <hkryczka@nrdc.org>; Harley, Keith (kharley@kentlaw.iit.edu) <kharley@kentlaw.iit.edu>; Nancy Loeb <n-loeb@northwestern.edu>
Subject: RE: Hearings on General Iron NOVs?

Please find my responses below

From: Geertsma, Meleah <mgeertsma@nrdc.org>
Sent: Tuesday, May 12, 2020 9:32 AM
To: Dave Graham <Dave.Graham@cityofchicago.org>; Jennifer Hesse <Jennifer.Hesse@cityofchicago.org>; Mort Ames <Mort.Ames@cityofchicago.org>
Cc: Kryczka, Heather <hkryczka@nrdc.org>; Harley, Keith (kharley@kentlaw.iit.edu) <kharley@kentlaw.iit.edu>; Nancy Loeb <n-loeb@northwestern.edu>
Subject: Re: Hearings on General Iron NOVs?

Thanks Dave - two additional follow-up questions:

1. Typically how long after the hearing does the administrative judge issue its decisions? Is there a standardish time, or a range, or too hard to say? Immediately
2. Is there a database where we can find the administrative decisions? Not that I am aware of, there is a database called AHMS CDPH has access to but it is not available publicly.

Jennifer,
Please confirm our AH results are not posted similarly as our other information, I do not believe that is the case.

Bureau of Air Permit Section

File Organization Cover Sheet

Source Name:	KCBX TERMINALS COMPANY
ID No.:	031600 GSF
Application No.:	07050082
Category:	03K
Item Date:	1/17/2014

Completed by:	BAD
Date:	___/___/___

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19506, SPRINGFIELD, ILLINOIS 62794-9506 - (217) 782-2113

PAT QUINN, GOVERNOR LISA BONNETT, DIRECTOR

217/785-1705

CERTIFIED MAIL
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PERMIT DENIAL

January 17, 2014

KCBX Terminals Company
Attn: Michael Estadt, Operations Manager
10730 South Burley Avenue
Chicago, Illinois 60617

Application No.:	07050082
I.D. No.:	031600GSF
Applicant's Designation:	
Received:	July 23, 2013
Construction of:	Conveyor Addition
Location:	10730 South Burley Avenue, Chicago, Cook County, 60617

The Illinois EPA has reviewed your application for Construction Permit for the above referenced project. The permit application is DENIED because Sections 9 and 39.2 of the Illinois Environmental Protection Act, and 35 Ill. Adm. Code 201.152, 201.160(a), 212.301, and 212.321 might be violated.

The following are specific reasons why the Act and the Rules and Regulations may not be met:

1a. 35 Ill. Adm. Code 201.152 specifies minimum data and information to be contained in a construction permit application. This application did not contain this information and the Illinois EPA could not determine compliance with the Illinois Environmental Protection Act (Act) and Regulations.

b. Specifically, the following information must be provided in order for the Illinois EPA to determine compliance of the ten portable conveyors, one box hopper, and one stacker with the regulations:

i. information concerning processes to which the emission unit or air pollution control equipment is related;

ii. the quantities and types of raw materials to be used in the emission unit or air pollution control equipment;

iii. 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;

iv. the type, size, efficiency and specifications (including engineering drawings, plans and specifications) of the proposed emission unit or air pollution control equipment; and

v. maps, statistics and other data reasonably sufficient to describe the location of the emission unit or air pollution control equipment

2. Pursuant to 35 Ill. Adm. Code 201.160(a)(1), no construction permit shall be granted unless the applicant submits proof to the Illinois EPA that the emission unit or air pollution control equipment will be constructed or modified to operate so as not to cause a violation of the Illinois Environmental Protection Act or of Title 35: Environmental Protection, Subtitle B: Air Pollution, Chapter I: Pollution Control Board.

3. The application does not show compliance with 35 Ill. Adm. Code 212.301 (Fugitive Particulate Matter). Based upon the observations made by the Division of Air Pollution Control's field staff and citizen pollution complaint forms, emissions from the source may violate 35 Ill. Adm. Code 212.301.

4. The application does not show whether the particulate matter emissions from the ten portable conveyors, one box hopper, and one stacker will comply with 35 Ill. Adm. Code 212.321. As the application did not include data that would prove the actual emission levels, pursuant to 35 Ill. Adm. Code 201.122, or any other information that could be used to estimate emissions, the Illinois EPA could not assess whether these emission units have a particulate matter emission rate at levels below which would be allowed by this rule.

5a. Pursuant to Section 39(c) of the Act, except for those facilities owned or operated by sanitary districts organized under the Metropolitan Water Reclamation District Act, no permit for the development or construction of a new pollution control facility may be granted by the Illinois EPA unless the applicant submits proof to the Illinois EPA that the location of the facility has been approved by the County Board of the county if in an unincorporated area, or the governing body of the municipality when in an incorporated area, in which the facility is to be located in accordance with Section 39.2 of the Act. For purposes of Section 39(c) of the Act, and for purposes of Section 39.2 of the Act, the appropriate county board or governing body of the municipality shall be the county board of the county or the governing body of the municipality in which the facility is to be located as of the date when the application for siting approval is filed.

b. Pursuant to Section 3.330 of the Act, "Pollution control facility" is any waste storage site, sanitary landfill, waste disposal site, waste transfer station, waste treatment facility, or waste incinerator.

c. Based upon the observations made by the Bureau of Land's field staff, storage pile #8 was determined to be a waste pile due to vegetative growth observed during the inspection conducted on November 6, 2013.

6. The denial of this application for the stated reasons does not change the status of the previously issued permit for the equipment and operations that this application covers.

The Illinois EPA will be pleased to review a reapplication for this permit that includes the necessary information and documentation to correct the deficiencies noted above. In accordance with 35 Ill. Adm. Code 201.152, this reapplication may incorporate by reference the data and information submitted to the Illinois EPA in the original permit application, provided that you certify that the data and information previously submitted remains true, correct and current. The reapplication will be considered filed on the date it is received by the Illinois EPA and will constitute a new permit application for purposes of Section 39(a) of the Act. Three copies of this information must be submitted and should reference the application and I.D. numbers assigned above.

If you have any questions on this, please call Michael Dragovich at 217/785-1705.

Raymond E. Pilapil
Acting Manager, Permit Section
Division of Air Pollution Control

Date Signed: 1/17/14

REP:MJD:psj

cc: Illinois EPA FOS, Region 1
Eric Jones, Illinois EPA Compliance Section

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KCBX Terminals Co.
Attn: Michael Estadt, Operations Mgr.
10730 S. Burley Ave.
Chicago, IL.
60617

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B.D

Category	Equipment / practice	Notes on issues in inspection reports
Dust control	misting cannon	"Misting cannons were not in operation at the time of the inspection." 5/8/20, 11491111 "Two misting cannons (West side of the shredder and East side of the shredder) were deployed during the inspection but with the wind direction, it did not seem to completely control windborne particulate and the untreated emissions that migrated offsite." 5/8/20, 11491696; see also 5/8/20, 11491386 "Misting cannons were observed to not be in operation to control airborne particles" during inspection on 3/26/2020, ID 11152408. NOV issued re air pollution & nuisance "Misting cannons were observed to not be in operation to control airborne particles" during inspection on 3/20/2020, ID 11124169, although inspector also observed there was not fugitive dust from piles being moved because of recent rain. 2 NOVs issued this day related to dust & failure to control dust. "Misting cannons were observed to not be in operation to control airborne particles at the time of the inspection" on 2/11/2020, ID 10929879 (issued NOVs) Misting cannons not in operation, but ground was saturated with water as it was snowing and did not observe dust or debris when workers disturbed material piles, 1/31/2020 ID 10881195; similar situation on 1/23/20 ID 10836335 when it had recently snowed misting cannons not in operation, fugitive dust observed, NOV issued. 1/10/20 ID 10767158 "Fugitive dust was also observed onsite when workers disturbed material piles and moved materials to and from truck trailers. Misting cannons were observed to not be in operation to control airborne particles at the time of the inspection. Observing auto fluff in the public way and fugitive dust without operating misting cannons leads me to believe that reasonable measurements were not and are not being taken to ensure dust, debris, and dirt won't migrate off site and into the public way." 1/7/20, ID 10746578 (NOV issued) see also 1/10/20 "Misting cannons were observed to not be in operation to control airborne particles at the time of inspection. Observing auto fluff in the public way and fugitive dust without operating misting cannons leads me to believe that reasonable measurements were not and are not being taken to ensure dust, debris, and dirt won't migrate off site and into the public way." 12/31/19, ID 10716916 (NOV issued) Misting cannons observed to not be in operation, 12/29/19 10708652, NOV issued "Fugitive dust was observed onsite and migrating offsite when workers disturbed the material piles and moved materials to and from truck trailers. Misting cannons were observed to not be in operation at the time of the inspection. Fugitive dust without operating misting cannons leads me to believe that reasonable measurements are not being taken to ensure dust, debris, and dirt won't migrate off site and into the public way." 12/27/19, 10706274 (NOV issued) "Dust was also obsrved on the vehicles parked on the Southeast side of Clifton Ave between Marcey St Kingsbury St, which is diagonally across from GII, LLC. Misting cannons were observed to not be in operation to control airborne particles at the time of the inspection. Observing auto fluff in the public way and dust on the vehicles diagonally across from GII LLC without operating misting cannons leads me to believe that reasonable measurements were not and are not being taken to ensure dust, debris, and dirt won't migrate off site and into the public way." 12/18/19, 1494955 (NOV issued) "Fugitive dust observed onsite when disturbing material piles and loading materials onto the trucks . . . Misting cannons were observed to not be operated and the water truck did not wet the pavement." 12/11/2019, 10639264 "Fugitive dust observed onsite when disturbing material piles and loading materials onto the trucks . . . Misting cannons were observed to not be operated but water truck had wet the pavement" 12/19/19, 10573289 misting cannons were observed to not be in operation, 12/2/19, 10578242 "Fugitive dust observed onsite when disturbing material piles . . . Misting cannons were observed to not be operated but water truck had wet the pavement." 11/15/2019, ID 10462386. same on 10/28/19, 10292164. "Rain and wind were present during the inspection. No misting cannons were observed to not be operated at the time of inspection nor was a water truck wetting the streets. No fugitive dust observed." 10/28/19, 10287548 "Fugitive dust observed onsite when disturbing material piles . . . Misting cannons were observed to not be operated at the time of inspection nor was a water truck wetting the streets. Dust was observed on Kindsbury and Wisconsin being kicked up from the trucks from General Iron." 10/18/19, 10208629 "Misting cannons were observed to not be operated at the time of inspection nor was a water truck wetting the streets." 10/1/19, 10039135 "misting cannons were observed to not be operated at the time of inspection." 9/30/19, 10022352 "The misting cannons, to control dust, were not observed to be in operation during my inspection. Excessive exhaust was observed from the scrubber's stack." 9/19/19, 9935298 "I called the facility, found that the water used for dust suppression was operational. They had failed to use it during early yesterday hours when temperatures were near freezing." 10/17/18, 7183644 "The road leading to the facility was wet, showing that the water truck is in use but at the site the water misters were not." 4/25/18, 1235829 "The road leading to the facility was wet, showing that the water truck is in use but at the site the water misters were not. . . . I met Jeff (manager) he told me that they would wait until it is warmer than the current 34 degree temperatures to begin watering the pile." 4/17/18, 1231336 I noted a few deficiencies: at the offload station (by trucks, at the shredder), incoming loads were noticeably dusty and causing clouds of dust as materials hit the ground. In the supply area, some of the stored drums (hydraulic oil, kerosene) had materials piled on top or lacked secondary containment. . . JC stated that there is a water sprayer dedicated to the offload area but did not know why it wasn't operating. he will havethis addressed immediately. he will also ensure that all drums are stored properly. 4/25/16, 842777 THIS WAS A PHONED IN COMPLAINT AND A LISTED INSPECTION AT GENERAL IRON'S YARD #1. THE COMPLAINT WAS CONCERNING ODORS, SMOKE AND DUST COMING FROM THEIR SHREDDER AND PILED MATERIAL. WHEN I ARRIVED I FOUND THAT THE WATER THEY WERE SUPPOSED TO BE USING ON THE PILE WAS NOT ON. THIS IS SOMETHING THAT I AND OTHER INSPECTORS HAVE WARNED THEM ABOUT IN THE PAST. THEIR PERMIT STATES THAT THEY NEED TO USE THE WATER ON AN AS NEEDED BASIS AND FROM WHAT I OBSERVED IT WAS NEEDED. THERE WAS DUST COMING FROM MATERIAL BEING MANIPULATED BY MACHINERY AND ALSO PLUMES OF BLUE SMOKE COMING FROM THE SHREDDER. THIS BLUE SMOKE CREATED A HAZE ON THE YARD AND IT ALSO MIGRATED OFF SITE. THERE WAS ALSO AN ODOR OF PETROLEUM FROM THE SHREDDING OF CARS. (NOV issued) 9/28/09
	water truck	fugitive dust observed and "the water truck did not wet the pavement" and misters were not on, 12/11/2019, 10639264 "Rain and wind were present during the inspection. No misting cannons were observed to not be operated at the time of inspection nor was a water truck wetting the streets. No fugitive dust observed." 10/28/19, 10287548 "Fugitive dust observed onsite when disturbing material piles . . . Misting cannons were observed to not be operated at the time of inspection nor was a water truck wetting the streets. Dust was observed on Kindsbury and Wisconsin being kicked up from the trucks from General Iron." 10/18/19, 10208629 "Misting cannons were observed to not be operated at the time of inspection nor was a water truck wetting the streets." 10/1/19, 10039135 dust observed and "No water trucks were observed to be wetting the streets for dust control" 8/1/19, 9495131 "The road was dry and there was no sign of their water truck . . . [Jeff] stated that their water truck was on standby for fire suppression in another part of the facility where some welding was being done" -- included in entries 6/21/19, 1411656 and 6/14/19, 1391614
Sources & observations of fugitive dust	material piles	inspector observed "dry piles of the shredded material on the ground and there was visible particulate being disturbed by the wind" on 4/9/2020, ID 1528985. Subsequent inspection met with Jeff to discuss making roofed bay the storage area for shredded material to address dust, 4/16/2020, ID 1529024. "Fugitive dust was also observed onsite when workers disturbed material piles and moved materials to and from truck trailers." 2/11/2020, ID 10929879, and misting cannons were not in operation (issued NOVs) "Fugitive dust was observed onsite when workers disturbed material piles and moved materials to and from truck trailers." & misting cannons not in operation 1/10/20, ID 10767158 (NOV issued) (see also 1/7/20 entry) "Fugitive dust was also observed onsite when workers disturbed material piles and moved materials to and from truck trailers." 12/31/19 10716916 (NOV issued) "Fugitive dust was observed onsite and migrating offsite when disturbing material piles and moving materials to and from truck trailers." 12/29/19, 10708652 (NOV issued), not using misting cannons fugitive dust from material piles w/o misting cannons - 12/27/19, 10706274 Fugitive dust was also observed onsite when workers disturbed material piles and moved materials to and from truck trailers. 12/18/19, 1494955 (NOV), no misting cannons in operation "Fugitive dust observed onsite when disturbing material piles and loading materials onto the trucks . . . Misting cannons were observed to not be operated and the water truck did not wet the pavement" 12/11/19, 10639264; same observation 12/2/19 10573289 except water truck had wet the pavement, same on 11/15/19, 10462386, same on 10/28/19, 10292164 "Fugitive dust observed onsite when disturbing material piles . . . Misting cannons were observed to not be operated at the time of inspection nor was a water truck wetting the streets. Dust was observed on Kindsbury and Wisconsin being kicked up from the trucks from General Iron." 10/18/19, 10208629 "One misting cannon was observed to be in operation at the time of inspection. No visible emissions were observed leaving the top or the side of the shredder. But, visible air borne material was observed when the material storage piles were disturbed." 10/7/19, 10103209 One misting cannon was observed to be in operation at the time of inspection. . . . Also, visible air borne material was observed when the material storage piles were disturbed. 10/1/19, 10047093
	truck related dust	"Fugitive dust observed onsite when disturbing material piles . . . Misting cannons were observed to not be operated at the time of inspection nor was a water truck wetting the streets. Dust was observed on Kindsbury and Wisconsin being kicked up from the trucks from General Iron." 10/18/19, 10208629 "met jk to investigate the dust aspect. No dust noted . . . I did note incoming trucks depositing CD debris (rebar) and as they did dust arose from the dry metal. The code requires that CD debris be wet priorr to transporting truckloads offsite but trucks from 2 different companies deposited dry CD debris. This is not caused by General Iron. the dust was not carried offsite by the wind . . . JK noted the issue and committed that they would spray more water on incoming loads during the unload process in case trucks arrived with dry/dusty debris." 11/2/17, 4326086 met JK ... I did note dust from inbound trucks delivering loads of CD debris (mostly rebar) that were dry. This is supposed to be wet by the demo company during the demo process before leaving the demo site. JK noted the dust and committed to paying special attentino to CD debris loads and wet them to minimize dust. 10/30/17, 1147529 I noted a few deficiencies: at the offload station (by trucks, at the shredder), incoming loads were noticeably dusty and causing clouds of dust as materials hit the ground. In the supply area, some of the stored drums (hydraulic oil, kerosene) had materials piled on top or lacked secondary containment. . . JC stated that there is a water sprayer dedicated to the offload area but did not know why it wasn't operating. he will havethis addressed immediately. he will also ensure that all drums are stored properly. 4/25/16, 842777 THIS WAS A LISTED INSPECTION AT GENERAL IRON'S YARD #1. WHEN I ARRIVED I FOUND THAT THE STREET NEEDED TO SWEPT AS THERE WAS A LOT OF DUST KICKED UP FROM TRUCK TRAFFIC. I ALSO FOUND THAT THERE WERE AREAS OF DIRT AND DEBRIS BUILD UP THAT NEEDED TO BE DEALT WITH ALONG WITH DEBRIS FLOWING INTO THE SEWERS. I TALKED TO JIM KALLAS ABOUT THESE ISSUES AND WILL REINSPECT NEXT MONTH. 6/24/2008
	auto fluff	Auto fluff observed offsite. 5/8/20, 11491386; 4/2/20, 11208389 Auto fluff observed on properties northeast of GII by inspector on 3/20/2020, ID 11124169. Inspector "also observed GII LLC personnel removing auto fluff from the public way on Marcey St." "Auto fluff/auto shredder residue was observed on the property directly Southwest and across the North Branch Chicago River." 2/11/2020, ID 10929879 (issued NOVs) Auto fluff/ASR observed at intersection of Kingsbury St and Cortland St. 1/10/20, ID 10767158 (NOV issued) (see also 1/7/20 entry) "Auto fluff/auto shredder residue was observed on the property across the river from GII, LLC and at the intersection of Kingsbury St and Cortland St." 12/31/19, 10716916 (NOV issued) "Auto fluff/auto shredder residue was observed at the intersection of clifton Ave and Marcey St" 12/18/19, 1494955 (NOV issued) "Automotive shredder residue was observed from across the river" 8/1/19, 9495131 THERE WERE TWO AREAS OF CONCERN WHERE FLUFF AND DIRT ACCUMULATE AND ARE NOT CLEANED AS OFTEN. I SPOKE WITH JIM KALLAS AND ADAM ABOUT THIS AND THEY ARE PLANNING ON REPAVING IT AND PUTTING IN A UST FOR CONTAINMENT OF THIS MATERIAL. I HAVE HAD ISSUES WITH FLUFF ACCUMULATING OFF SITE AND THEY RESPONDED SO I WILL WORK WITH THEM ON THIS ISSUE TO GET IT RESOLVED. 8/9/12, 450164 THERE WERE ISSUED I HAD NOTICED DURING MY LAST INSPECTION WHERE ALONG CORTLAND, CLYBOURN, KINGSBURY, MARCY AND CLIFTON PUBILC WAYS WAS A BUILD-UP OF FLUFF. THIS FLUFF HAD SETTLED AND PACKED IN THE CRACKS IN THE SIDEWALKS, ALONG THE BUILDINGS, AROUND MANHOLE COVERS AND OTHER ACCESS COVERS ANDIN THE STREET. THIS FLUFF IS A PRODUCT OF GENERAL IRON'S PROCESSES AND IS COMING FROM THEIR YARD AND/OR THE TRUCKS HAULING IT OFF SITE FROM THEIR YARD #1. LAST DECEMBER I HAD ASKED THEM TO CLEAN THE FLUFF FROM THE SURROUNDING AREAS AND ASKED THEM WHAT A FAIR TIMELINE WOULD BE, WE WOUND UP SETTLING ON TWO-THREE WEEKS. TODAY WHEN I WALKED AROUND THEIR YARD I FOUND THAT THE FLUFF WAS STILL PRESENT IN ALL OF THE ABOVE AREAS AND IN THE SAME CONDITION. I ALSO ASKED TO SEE THEIR LATEST TEST RESULTS FROM THIS MATERIAL AND THE RESULTS WERE ALL UNDER TCLIP THRESHOLDS. THEY DID RECEIVE A CITATION AND I WARNED THEM THAT THEY ARE RESPONSIBLE FOR SURROUNDING PUBLIC WAYS AND THEY HAVE TO INCORPORATE PATROLLING SURROUNDING AREAS FOR THIS TYPE OF RELEASE. THERE WERE ALSO A COUPLE OF AREAS WHERE THEY HAD BREAKS IN THEIR BERM ALONG THE RIVER WHERE RUN OFF COULD POTENTIALLY FLOW INTO THE RIVER. THEY MUST HAVE THESE BREAKS REPAIRD BY MY NEXT INSPECTION. 1/26/12, 416450
	dumpster	"There are particulates collected on top of the dumpster and noticeable dust is escaping from a gap in between the dumpster and it's cover." 8/1/19, 1528963 "The hoses that discharge to the dumpster have tape and small openings that allow the particulates to visibly escape." 5/4/19, 1372015 "The discharge process appeared to adjustment need - particulates are collected on the ground next to the dumpster." 3/22/19, 1332401 "Previous inspection: They had added paneling to enclose the waste dumpster, which will contain any loose particulates that happen to escape. There was some loose particulate on the ledge above the dumpster. There remains work to be done that will address the particulates that escape while they are clearing blockages from the discharge pipes to the dumpster. There was loose particulate on the ground. this will be trucked down to yard 1 for processing this week. They will change storage so that all fine particulates are stored in a bunker, under a roof. Current inspection: they were emptying the waste dumpster and making more adjustments to the discharge process." 8/31/18, 1281937 "Previous inspection: the wire shred line was in operation. The waste dumpster from the process line appeared to have particulates underneath it and a small amount on flat surfaces around the edges, dust appeared to be coming out along the side door on the end. Current inspection: I met J. Kallas (or JK environmental manager) and toured the facility. They have added paneling to enclose the waste dumpster, which will contain any loose particulates that happen to escape. There is some loose particulate on the ledge above the dumpster. There remains work to be done that will address the particulates that escape while they are clearing blockages from teh discharge pipes to the dumpster. There is loose particulate on the ground. This will be trucked down to yard 1 for processing this week. They will change storage so that all fine particulates are stored in a bunker, under a roof." 6/28/18, 1246527 "Previous inspection: the wire shred line was not in operation. Workers were making adjustments to the waste dumpster from the process line. Apparently moving it with a forklift had poked holes in it and they ahd covered the holes with duct tape. The supervisor had a plan to address these holes, adapt the outputs so that they are dust-tight, and screen the area around the dumpster in case any dust leaks out. This should be completed by reinspection. Current inspection: I met J. Kallas (or JK, environmental manager) and toured the facility. The wire shred line was in operation. The waste dumpster from the process line appeared to have particulates underneath it and a small amont on flat surfaces around the edges, dust appeared to be coming out along the side door on the end . . . . I told JK that 1) the should clean all of the particulate outside the dumpster and check for any materials that could outside after anything found will show that it has material defect that allows this and 2) they must seal all gaps that will allow dust to escape." 5/9/18, 1229400 "Previous inspection: there was loose particulate atop the shelf holding the outputs from the process line to the waste dumpster. Apparently there was a breach that allowed this. JK assured that this would be addressed immediately. Current inspection: I checked the repairs to the waste dumpster and found that the loose particulate had been cleared from the shelf holding the outputs and duct tape had been used to seal any cracks in them. the cracks in the dumpster had been addressed by steel plate being welded in place." 3/21/18, 1222165 Previous inspection: there was loose particulate atop the shelf holding the outputs from the process line to the waste dumpster. Apparently there was a breach that allowed this. JK assured that this would be addressed immediately. Current inspection: I met J. Kallas (or JK environmental manager) and toured the facility. the wire shred line was not in operation. workers were making adjustments to teh waste dumpster from teh process line. apparently moving it with a forklift had poked holes in it and they had covered the holes with duct tape. The supervisor had a plan to address these holes, adapt the outputs so that they are dust-tight, and screen the area around the dumpster in case any dust leaks out. this should be completed by reinspection. 3/14/18, 1214005 "I met J. Kallas . . . And toured the facility. The wire shred line was not in operation. There was loose particulate atop the shelf that holds the ouptuts that lead from the process line to the waste dumpster. Apparently there was a breach that allowed this. JK does not deal with the actual processes in this area but will ensure that this is addressed immediately." 1/31/18, 1187038 the dumpster for the wire shredder has a powdery buildup around areas that may have material defects (cracks/splits) in the metal that allowed the wire to escape containment. JC will clean off the buildup and pressure wash the whole container. This will show whether these are defects that allow leakge or ambient dust that happens to settle on these areas. 3/31/16, 829790 "photo A: the dumpster for the wire shredder had material defects (holes) that allowed the wire to escape containment. These defects have been repaired" 2/17/16, 809135 the dumpster itself still has material defects (holes) in it that allows the wire to escape containment. These defects were to be addressed by reinspection. JC was warned that this should be addressed by reinspection or Nov will result. 12/7/15, 715706

		photo a: top of dumpster for shredded wire apparently has defects in it and piping conveying the wire from the building. This allows the wire to escape containment. ... photo b: bottom of dumpster/ground. these defects to be addressed by reinspection. 11/3/15, 712767
	wire shred line	"Met J.K... found that the wire shred line is back in operation after repairs that kept it out of commission for a few months. There is a waste receptacle attached to the processes that is supposed to contain the dust and other particulates generated as a part of this but that container has a hole in it that is allowing dust to escape and collect in the ground next to it. . . . JK spoke to the operations manager. this will be remedied by reinspection, in 1 month." 6/20/17, 1081440 wire shred line is stil not in operation, they are waiting for a part necessary to run the process line 4/25/17, 1061572 facility is currently inactive. Wire shredding is temporarily being suspended. 3/9/17, 1039051 the wire shred line is not in operation, only using the line for separating out contaminants (rocks, glass) from the wire. No actual wire shredding being done. 1/11/17, 1011469
	other fugitive dust related evidence	"Between loading and the water cannons, particles were observed thick in the air as wind was strong during the inspection." 5/8/20, 1537993 "When observing GII LLC from Kingsbury St Cortland St, the odors were very strong and particulate as blowing directly at me since the wind was coming from the Southeast. I could not fully inhale nor could I keep my eyes open at this location. When leaving the area after the inspection, I could feel my nose throbbing and chest discomfort." 4/2/20, 11208389 "I spoke to the facility manager at the PAWS facility directly across the General Iron at the intersection at Clifton Marcey. He informed me that they have to change the HVAC filters weekly since the debris caused by General Iron's shredder and material piles. Misting cannons were observed to not be operated at the time of inspection nor was a water truck wetting the streets." 10/1/19, 10039135 "By the river, the winch for the barges and the fence next to it are covered with dust" 8/1/19, 1432160 "General Iron was observed to be utilizing specific misting cannon to control dust and odors. No water trucks were observed to be wetting the streets for dust control. . . . . Wind borne particles were also observed on the upper Northwest side of the facility. Here, they load materials onto trucks and move materials to other nearby locations on the site. " 8/1/19, 9495131 "The inspectors met with General Iron safety manager Jeff Jones, and a discussion was held concerning airborne emissions and health and safety surrounding the plant. Jones stated that air monitoring, wetting, sweeping and all of the safety and cleanliness actions for the plant are in use. The facility operates almost continuously and some debris will migrate despite best efforts, according to Jones. Jones pointed to the various systems in place to limit particulate from leaving the property." 6/28/19, 9203598 "I noted that there was also lightweight, nonmetal material that was light enough to become windoborne. The plastic strips that are supposed to help keep control of the discharge were torn and needed placement. ?JK said that the Cyclone is supposed to remove all nonmetal and he will investigate how this got past. He will have the damaged plastic strips replaced." 11/1/18, 1313012 "some scrap had been left in the Northwest area where scrap was not to be stored, only machines - this had been removed. Materials had been noted on top of the wall that formed the boundary in between the nonferrous plant and the neighboring street. This had been addressed and the pile would be maintained to prevent this from happening. there had been separated waste that was lightweight enough to become windborne next to the river. this had been covered with recent snows but shoveled together with teh snow and was being moved to the pile to be fed into the shredder." 2/8/18, 1223308; see also entry 2/8/18, 1208846, adding " there had been separated waste that was lightweight enough to perhaps become windborne next to the river, alon gwith small fragments that had strayed away from the pile or been dropped/dragged by trucks. This had been covered with recent snows but shoveled together with the snow and was going to be moved to the pile to be fed into the shredder." "previously i had noted that there was no barrier to prevent materials (stored outside while awaiting processing) from becoming windborne and possibly migrating to the nearby river. a screen fence with fabric mesh attached had been put in place to address this." 1/31/18, 1187038 large chunks of rock had been added as pavement to the northwest area where scrap was not to be stored, only machines. There were machines there but also some scrap. I told JK that the scrap should be moved to the scrap side and he agreed to do this. near the nonferrous plant, materials were piled against the stone barrier which separated GI from the neighboring street. materials were noted on top of the wall. i told JK that this threatened materials escaping the facility and suggested that they relocated this to a more controlled area. there was waste that had migrated from the pile that was lightweight enough to become windborne. i told JK to have this area cleaned up by next insepction in 1 week. 1/31/18, 1207398 "I met J. Kallas . . . And toured the facility. The wire shred line was in operation. Previously the dust collector had a breach in one of the pipes that allowed particulates t oescape and collect on the ground underneath. This had been repaired but the bin of collected particulates remained. This must be removed to prevent them from becoming windborne and exiting the facility. There are loose materials piled around the hopper which feeds them into the bulding, with no barrier in between them and the nearby river. JK was supposed to address this but it had not been done . . . the supervisor had the idea of fencing the area adjacent to the river and adding another layer to the stone blocks delineating the area where the particulates are stroed. this should address the issue." 12/7/17, 1174349; see also 10/30/17, 1137460 Also, there is litter on the ground that can become windborne and escape the facility. this to be addressed immediately. 3/31/16, 830775 Photo C) materials piled near to and higher than the dock wall. this threatens spillover to the river. these materiasl to be moved immediately and this area not used for storage. 12/7/15, 804947 THE GROUNDS WERE IN NEED OF A SWEEPING BUT MOST OF THE FLUFF WAS FROZEN TO THE GROUND. THEY WERE LOADING A BARGE AND THE MAJORITY OF MATERIAL NOT MAKING IT INTO THE BARGE WAS CAUGHT ON THE EDGE OF THE BARGE AND AN EMPLOYEE WAS PICKING IT UP. 3/20/13, 491495
Soil, water, and dust related issues	**Pavement**	"There was dirt in the Northeast corner where machines were usually parked that is empty but uneven. I spoke to Jeff (yard manager) and he told me that he had a load of asphalt scheduled to arive today for proper paving." 8/1/19, 1432160 "previous findings: Northeast corner appears to be dirt. They are to expose the pavement and, If not paved but dirt, explore the possibility of adding acceptable pavement. Current findings: . . . Met JK . . The dirt northwest area had not been apved but they did not have shredded materials stored or machines parked there. there were some large pieces that may be structural pieces for the plant, not to be processed as scrap." 6/20/17, 1061585 previous findings: northwest corner appears to be dirt. They are to expose the pavement and, if not paved but dirt, explore the possibility of adding acceptable pavement. Current findings: . . . The northwest area had still not been addressed, as requested. JK will have to address the owner about making the necessary improvement of the uneven, muddy dirt pavement. the ground is some rock, some dirt and mud with standing water. there has been addition of cement pavement nearer the materials pile/shredder area, which will continue into the spring and summer. i strongly encouraged JK to include this northwest area in theri improvements. 1/11/17, 1011476 previous findings: northwest corner appears to be dirt. They are to expose the pavement and, if not paved but dirt, explore the possibility of adding acceptable pavement. Current findings: . . . The northwest area had still not been addressed, as requested. the ground is some rock, some dirt and mud with standing water. there is a sewer drain but it is partially covered with dirt. i repeated my directive to address the pavement in this area, by adding gravel or exposing any cement or asphalt that lies beneath. 10/31/16, 1001811 a portion of the facility (in the northwest scorner) appears to be dirt. JC says he blieves there is concrete or gravel underneath. I told him to scrape the surface to expose the pavement and, if not paved but dirt, explore the possibility of adding adcceptable pavement. 7/27/16, 882010 in the center, standing water floods the area. JC states that this area is to be paved this year. 3/31/16, 830775 photo a) open-air area in between the shredder and the eddy current processes has layers upon layers of shredded materials that prevent proper drainage of water and lets mud collect. JC states that this area is scheduled for paving. 9/30/15, 711215 photo a) open air area between the shredder and eddy current processes layers upon layers of shredded materials prevent proper drainage of water and lets mud collect. Callas stated that there is pavement (stone) below these layers. I directed (per permit special condition 22, 29) that he plan to expose this pavement and update me on the sept inspection. 8/27/15, 708237 Photo B) open-air area in between the shredder and the eddy current processes standing water shows that pavement is not sufficient to promote drainage. 7/16/15, 700925 There is a buildup of mud on the ground, calling for increased (more frequent) cleaning. 5/5/15, 696354 THE PAVEMENT IN MANY AREA NEEDED TO BE REPAIRED.THEIR TRIPLE BASIN SYSTEM (WITH OIL/WATER SEPARATOR) WAS BEING INSTALLED -I ASKED IF THEY HAD APPLIED FOR A DISCHARGE PERMIT SINCE THEIR WASTEWATER WAS BEING TREATEDAND JEFF COULD NOT GIVE ME AN ANSWER. WATER WAS BEING APPLIED TO ALL THE PILES AND AT THE SHREDDER. 5/21/13,499636
	conveyor	JC warned me in advance that the plastic flaps (placed to direct discharge) where the conveyor ejects to the barge were in poor (shredded) condition. They had ordered replacements that shredded much more quickly than the usual flaps, which had been reordered and are due any day. also, the bottom of the conveyor has shredded materials caked on it. this to be cleaned off and kept clean. 3/31/16, 830775 Photo B) shredded plastic flaps (placed to direct discharge) where the conveyor ejects to the barge have not been replaced as directed in the previous inspection - this to be addressed by reinspection. 12/7/15, 804947 photo a) 2 of the plastic flaps (placed to direct dishcarge) where the conveyor ejects to the barge are in poor (shredded condition). JC will have these replaced immediately. 11/3/15, 712835 photo a) the conveyor is ejecting too close, in my estimation, to the outside edge of the barge. This can allow materials to bounce over the edge or lighter weight materials to become windborne. I requested that they make adjustments to the barge and/or conveyor that would decrease the threat of materials entering the river. 3/19/15, 690611 the area where barges were loaded bore attention: the plastic flaps where the conveyor ejected were in poor condition (badly shredded) - they must be replaced. 11/4/14, 533176 the area where barges were loaded bore attention, last visit: the plasic flaps where the conveyor ejected were in poor condition (badly shredded). As directed, the flaps had now been replaced with longer, thicker ones. 4/24/14, 520589
Shredder	**fugitive emissions**	"emissions from the shredder were observed to blow Southwest across the river." 5/8/20, 1537993 "untreated emissions were observed escaping the top and sides of the shredder." 5/8/20, 11491111; 5/7/20, 11478772; 5/4/20, 11448114 "smoke and untreated emissions were observed escaping the shredder." 5/8/20, 11491696 from across the Chicago River, inspector observed "untreated emissions" that were "escaping the top of the shredder" on 3/26/2020, ID 11152408. NOV issued re air pollution & nuisance from across the Chicago River, inspector noted "untreated emissions were observed escaping the shredder. Black smoke was also observed periodically escaping the shredder" on 3/20/2020, ID 11124169. 2 NOVs issued this day, air pollution related "Untreated emissions were observed escaping the top and the sides of the shredder. I also observed smoke leaving the shredder and traveling through the property across from the North Branch Chicago River. " 2/11/2020, ID 10929879 (issued NOVs) "During the entire time of my inspection, untreated emissions were observed escaping the top and side of the shredder" 1/31/2020, ID 10881195 (NOV issued) "Untreated emissions were observed escaping the top and side of the shredder. It looked like smoke was leaving the shredder too. The shredder is not an enclosed piece of equipment. It does contain a hood to capture the emissions and process them through a regenerative thermal oxidizer (RTO) and a wet scrubber to remove volatile organic compounds (VOCs), hazardous air pollutants (HAPs), and other airborne solvents. Being able to observe emissions escaping the shredder leads me to believe that the equipment capturing the emissions is insufficient. Consequently, this does not allow the recently installed air pollution control equipment to remove the emissions since they are escaping at the shredder before the treatment process." 1/23/2020 ID 10836335 (NOV issued) "Untreated emissions were observed escaping the top and side of the shredder and migrating off-site. The shredder is not an enclosed piece of equipment. It does contain a hood to capture the emissions and process them through a regenerative thermal oxidizer (RTO) and a wet scrubber to remove volatile organic compounds (VOCs), hazardous air pollutants (HAPs), and other airborne solvents." 1/10/20, 10767158 (NOV issued) "Being able to observe the emissions escaping the shredder leads me to believe that the equipment capturing the emissions is insufficient. Consequently, this does not allow the recently installed air pollution control equipment to remove the emissions since they are escaping at the shredder before the treatment process." 1/7/20, 10746578 (NOV issued, see 1/10/20 entry) "Untreated emissions were observed escaping the top and side of the shredder. It looked like smoke was leaving the shredder too. The shredder is not an enclosed piece of equipment. It does contain a hood to capture the emissions and process them through a regenerative thermal oxidizer (RTO) and a wet scrubber to remove volatile organic compounds (VOCs), Hazardous air pollutants (HAPs), and other airborne solvents. Being able to observe emissions escaping the shredder leads me to believe that the equipment capturing the emissions is insufficient. consequently this does not allow the recently installed air pollution control equipment to remove the emissions since they are escaping at the shredder before the treatment process." 12/31/19, 10716916 (NOV issued) "Untreated emissions were observed escaping the top and side of the shredder. The shredder is not an enclosed piece of equipment. It does contain a hood to capture the emissions and process them through a regenerative thermal oxidizer (RTO) and a wet scrubber to remove volatile organic compounds (VOCs), Hazardous air pollutants (HAPs), and other airborne solvents. " 12/29/19, 10708652 (NOVs issued) untreated emissions escaping from top and side of shredder; "Being able to observe emissions escaping the shredder leads me to believe that the equipment capturing the emissions is insufficient. Consequently, this does not allow the recently installed air pollution control equipment to remove the emissions since they are escaping at the shredder before the treatment process." 12/27/19, 10706274 (NOVs issued) "untreated emissions were seen escaping the top and side of the shredder. he shredder is not an enclosed piece of equipment. It does contain a hood to capture the emissions and process them through a regenerative thermal oxidizer (RTO) and a wet scrubber to remove volatile organic compounds (VOCs), Hazardous air pollutants (HAPs), and other airborne solvents. Being able to observe emissions escaping the shredder leads me to believe that the equipment capturing the emissions is insufficient. Consequently, this does not allow the recently installed air pollution control equipment to remove the emissions since they are escaping at the shredder before the treatment process." 12/18/19, 1494955 (12/18/19) NOV issued "Steam/emissions were observed to be exhausted directly from the shredder during the inspection" 12/11/19, 10639264; same observation on 12/2/19, 10573289; same observation on 11/15/19, 10462386; same on same on 10/28/19, 10292164; same on 10/18/19, 10208629 "During this inspection, Jim allowed me to view the shredding process. Inside the shredder box, we were able to view automotive parts entering the shredder. Large amounts of steam is created during this process since water is being sprayed to control dust, explosions, and heat. Above the shredder is the catch hood to pull the steam/emissions/dust/debris through their air pollution control equipment (filter, RTO, and scrubber). Not all the steam is being captured by the hood and is released to the atmosphere since the shredder box is not a sealed structure. Also, the materials that were shredder hold the heat generated by the process, this causes the materials to steam/emit." 11/15/19, 10461347 "Visible emissions, smoke/steam, were observed leaving back side of the shredder, that is facing the river." 10/7/19, 10103782 "Smoke/steam observed leaving the top and side of shredder and failed to be processed with the air pollution control equipment." 10/1/19, 10039135 "Visible emissions were observed leaving the top and the side of the shredder. They were viewed during the duration of the ispection. The shredder is not a closed system thus allowing emissions to escape before being processed by the RTO and scrubber." 10/1/19, 10047093 "The misting cannons, to control dust, were not observed to be in operation during my inspection. Excessive exhaust was observed from the scrubber's stack." 9/19/19, 9935298 "During this inspection, air monitors (arearae pro monitors) were placed in specific locations for a specific amount of time to test the air quality. Abnormal levels of VOCs were observed downwind from the facility (above 10PPB). We will continue to investigate General Iron to find a source and type of VOC emitted. . . . Emissions from the shredder was observed during the inspection. The shredder utilizes water to reduce particulate dust. When the water hits the hot shredder fragments, the water turns to steam. Steam droplets may capture particles that can be emitted into the air. " 8/1/19, 9495131 THE GROUNDS NEEDED TO BE SWEPT AS THERE WAS A BUILD-UP OF FLUFF AND A SMALL AMOUNT OF METALS. A BARGE WAS BEING LOADED AT THE TIME OF MY INSPECTION AND I DID NOT SEE ANY MATERIAL ENTERING THE RIVER. THEY ARE INSTALLING A NEW CYCLONE FILTER ON THEIR SHREDDER AND IT IS ALMOST COMPLETE AND IS ESTIMATED TO BE IN USE IN JUNE. THEY ARE ALSO INSTALLING A TERTIARY FILTRATION SYSTEM FOR THEIR YARD AND IT IS ABOUT HALF WAY DONE. I ASKED WHERE THE WATER WAS GOING TO BE DISCHARGED AND JEFF COULD NOT GIVE ME AN ANSWER. THERE WAS A MINOR AMOUNT OF BLUE SMOKE COMING FROM THE SHREDDER. THEY NEEDED TO RUN WATER ON THEIR SCRAP PILE BUT THEY HAD A BROKEN PIPE THAT I WAS TOLD WAS GOING TO BE FIXED LATER THIS DAY. 4/29/13, 493751 HERE WAS A MINOR AMOUNT OF PARTICULATE EMISSIONS FROM THE SHREDDER BUT FOR THE MOST PART WAS VAPOR. THEY ARE ALSO WORKNG ON INSTALLING A SCRUBBING SYSTEM FOR THEIR SHREDDER AND ARE PURSUING THE NECESSARY PERMITS. 10/31/12, 457763
	RTO	4AM is usually the time the RTO is turned on in preparation for the workload of the day, and once the machine is turned on it dispenses a large amount of steam, 2/26/2020 ID 11001377 (inspection in response to noise & toxic gas / vomiting complaint) "Metal materials were being loaded by machine into the shredder. No dust emissions were noted to leave the immediate area of the conveyor to the shredder. I noted that there were emissions visible coming from machinery behind the building - i met J. Kallas (or JK, environmental manager) and he told me that these were mainly steam emissions, which were a part of the cleaning process (RTO) of emisisons coming from the shredder." 1/30/20, ID 1501827 "There was observed just a water vapor coming from the newly installed RTO" 1/16/20, ID 1469863 they have recently added pollution control devices in addition to the filtering equipment already on the shredder that treat all emissions from it. 12/13/19, 10657412 There were observed just a water vapor coming from the newly installed RTO. 11/5/19, 1451164 "During canvassing there was no visible emissions observed (except the water vapor fro the RTO stack) neither odors were detected.... We observed facility operating at full capacity. RTO was not linked yet to the monitoring PC but manually the pressure drop, water with NAOH flow and temperature were accessible. Stack test instead to be conducted in October now will be conducted still by Mostardi Platt in November (CDPH will be witnessing the stack test). No NOV or DN was issued at this time. See attached images and site sketch." 9/16/19, 9895600 "Onsite, I spoke with Jeff Jones regarding the new regenerative thermal oxidizer (RTO) and wet scrubber that is downstream from the shredder. He explained that the new system is in operation to breakdown the VOCs before they are exhausted to the atmosphere. While we were discussing the new system, it was observed that steam was escaping the shredder. He stated that the shredder uses water and is not a closed system. Continuous use of the shredder and the shredding of metal produce huge outputs of heat. Most systems contain a water spray method to decrease the potential for an explosion, dust suppression, and to cool the shredder. Steam is produced from this process along with the volatilization other chemicals and materials placed in the shredder." 9/5/19, 9802564
	explosions	"They had recently had an explosion in their pollution control equipment that had caused most operations to be temporarily suspended." 5/29/20, 1545015; 5/21/20, 1539517

		Inspector "spoke to Jim and he informed me that there was an explosion in the shredder during the morning hours between 7:30AM - 7:40 AM. He said this is a common occurrence." 2/11/2020, ID 10929879 (issued NOVs) "met JK to follow up due to an explosion incident on the previous day. he stated that they did have an explosion while feeding materials into the shredder. The operator cannot see that part of the shredder because it is covered by a hood so does not know what exploded. the operator heard and saw the explosion and responded by hitting the switch that dumps 90+ gallons of water under the hood. the opearator logged the incident. the fire dept. did respond..... attached are the operator log and plant log." 9/13/17, 1140048
	shredder issues	"the shredder seemed to be out of service at the time of the inspection. The conveyor belt to the shredder was not moving nor was there scrubber exhaust being produced." 9/19/19, 9935709 "Steam was observed leaving the top of the shredder while the new scrubber stack seemed to not be in operation at the time of inspection" 9/17/19, 9901819 "During this inspection, the shredder was observed to be inoperable since the conveyor belt to the shredder was not moving and mounds of raw material was stored higher than normal." 8/29/19, 9747470 "They had much more material onsite than normal . . . I met Jeff (manager) he told me that the shredder was not in use due to a malfunction but they expected to have this repaired in the next day or so." 4/25/18, 1235829 "the main dump area contained much more material than normal . . . I met Jim Kallas (or JK, environmental manager) he told me that a magnet on the shredder had burned out. A new had been ordered, arrived this morning, and would be installed today." 4/5/18, 1231305 operations are being slowed by a jammed part of the shredder. 1/27/15, 538868
Truck emissions		exhaust emissions were evident due to truck traffic to/from the facility and this being a street with constant vehicle trafic, 6/20/17, 3247181 found no smoke or odors beyond that of the exhaust emissions evident due to the constant in/out truck traffic. 2/10/17, 2380409 found no odors beyond that of the exhaust emissions evident due to the constant in/out truck traffic. 1/30/17, 2324165
SAFETY		"While there, a truck arrived and was still parked on the street when smoke began to come from some of the scrap on the truck and continued as it entered the site gate . . . General Iron personnel unloaded the smoking scrap and used extinguishers to put out the fire. Their yard manager rejected the truck and did not allow them to leave any scrap." 4/1/19, 8429665
	truck fire	I GAVE THEM THE SAME WARNING ABOUT TAKING DRUMS THAT WERE NOT FULLY RINSED OUT AND CONTAINED ANY RESIDUALS. I INFORMED THEM THAT THEY HAD TO TAKE THE DRUMS AND DEAL WITH THEM CORRECTLY OR NOT TAKE THEM AT ALL. I WAS TOLD THAT THEY WOULD DEAL WITH THEM IN THE PROPER MANNER AND NOT TAKE THEM IF THERE WAS RESIDUALS IN THEM. 3/20/13, 491495
	haz mat	I MET J. KALLAS (OR JK, ENVIRONMENTAL MANAGER) AND TOURED THE SITE.AT THE AREA FOR PRESSURE VESSELS, I NOTED A FEW THAT WERE STORED UPRIGHT WITHOUT PROTECTIVE CAPS OR BEING CHAINED/STRAPPED ?JK SHOWED ME THAT THESE HAD BEEN VENTED AND THEIR VALVES REMOVED.PHOTO A) PRESSURE VESSELSREINSPECTION IN 1 MONTH. 1/9/2020, 1479398 "At the area for pressure vessels, I noted a few that were stored upright without protective caps or being chained/strapped. I had previously told JK to have this addressed for safety pruposes and today this continues. I stressed with the person in charge of this area to have this done every time. " 6/28/18, 1268331 "At the area for pressure vessels, I noted a few that were stored upright without protective caps or being chained/strapped. I h told JK to have this addressed for safety purposes. Between the pressure vessels and the nonferrous plant had metal scrap in it that should be in the materials pile. this will be addressed. . . . the conveyor to load the barge was not currently in use." 5/9/18, 1239682 at the pressure vessel storage area, tanks w/o caps are stored upright but not restrained (by chain, strap) this t obe addressed immediately. 3/31/16, 830775
	pressure vessels	I noted a few deficiencies: at the offload station (by trucks, at the shredder), incoming loads were noticeably dusty and causing clouds of dust as materials hit the ground. In the supply area, some of the stored drums (hydraulic oil, kerosene) had materials piled on top or lacked secondary containment. . . JC stated that there is a water sprayer dedicated to the offload area but did not know why it wasn't operating. he will havethis addressed immediately. he will also ensure that all drums are stored properly. 4/25/16, 842777 I DECIDED TO INSPECT THE MECHANICS SHOP AND WAS SURPRISED AT WHAT I HAD FOUND. I FOUND A DRUM THAT WAS ALMOST CRUSHED AND THE BOTTOM WITH SEVER RUST DAMAGE. THIS DRUM CONTAINED A COMPOUND USED FOR PATCHING CONCRETE AND THE LABEL ON THE DRUM WARNED THAT THE FUMES WERE EXPLOSIVE. THIS DRUM WAS NEXT TO AN AREA WHERE LARGE DIESEL TANKS RESIDED, WELDING AND GRINDING TOOK PLACE AND OTHER REPAIR ACTIVITIES. ABOVE THE DIESEL TANK AND THROUGHOUT THE SHOP WERE OPEN ELECTRICAL JUNCTION BOXES. THERE WERE OILY RAGS ON THE FLOOR, OILY OIL DRY AND OTHER OIL SOAKED ITEMS ON THE FLOOR. FIRE EXTINGUISHERS WERE WITHER MISSING, ON THE FLOOR, NOT LABELED OR BLOCKED. THERE WERE PROPANE TANKS IN THE SHOP, SOME EMPTY AND SOME FULL. I ALSO WITNESSED AN EMPLOYEE GRINDING A PIECE OF METAL AND ALLOWING THE SPARKS TO FALL DIRECTLY ONTO AN OPEN FORKLIFT WITH THE BATTERY EXPOSED AND THE PROPANE TANK DIRECTLY BEHIND IT. I SPOKE WITH JIM KALLAS AND INFORMED HIM THAT ALL OF THESE ISSUES AND MORE MUST BE RECTIFIED BY THE TIME I RE-INSPECT THE FACILITY. 12/21/10 WHEN I INSPECTED THE SHOP I FOUND THAT THERE WERE SOME POTENTIALLY HAZARDOUS SITUATIONS. THE FIRST WAS A WORKER GRINDING METAL AND THE SPARKS WERE HITTING A PROPANE TANK ON A FORKLIFT. THE OTHERS WERE SCATTERED AROUND THE SHOP AND THEY INCLUDED STEEL DRUMS ON CONCRETE, ONE WITH A BAG OF SALT ON IT, THERE WERE NO CONTAINMENT PALETTES FOR THESE DRUMS. THERE WERE ALSO SITUATIONS WHERE FLAMMABLE LIQUIDS WERE WITHIN PROXIMITY OF ELECTRICAL OUTLETS AND ONE SITUATION WHERE KEROSENE AND GAS PROPPED UP AGAINST TWO 250 GALLON USED OIL TANKS NEXT TO A BREAKER BOX. THE SOLVENT TUB WAS ALSO NEXT TO AN ELECTRICAL OUTLET WHICH WAS OPEN AND HAD A BIRDS NEST IN IT, THERE WAS ALSO GASOLINE AND OTHER FLAMMABLES NEXT TO IT. I ALSO FOUND THAT THEY HAD A CABINET WITH MULTIPLE BOTTLES OF SPRAY PAINT IN IT AND I WAS TOLD THAT THEY ARE USING IT FOR TOUCH UP. I INFORMED THEM OF THE ORDINANCES AND WILL CHECK WITH MY OFFICE AND THEN BACK WITH THEM. THERE WAS ALSO A DRUM OF WATER WITH ANTIFREEZE RESIDUE IN IT CRUSHED UNDER A LARGE IRON PLATE. THERE WAS LEAK AND THE DRUM WAS PICKED UP AND DISPOSED OF. 1/19/10
	dangerous storage	hazmat call & fire on dec. 11, 2015. fire in trailer. Talked w/ Adam the owner of general iron. There was a fuel dispensing pump in the load that proably contained fuel. There was a 500 allon UST in the trailer and a possible propane tank. There was also roughly 10' of material behind the tank so it was not known if there were more fuel pumps behind it. trailer parked away from their yard on kingsbury street. 12/11/15, 805587 f/u due to a fire that had taken place over the weekend. Apparently, a materials pile had spontaneously erupted/combusted. It had happened during a down time and the pile was not being manipulated - the cause remains unidentified. One possibility being considered is that some self-cleaning ovens were known to combust while being shredded due to one of the interior components. 12/7/15, 804947 GENERAL IRON PERSONNEL MR. MESH AND MR. TRANT WERE INTERVIEWED BY CDPH WITH REGARDS TO THE FIRE DURING THE INCIDENT. AT THE TIME THE CAUSE OF THE FIRE WAS UNDETERMINED BY GENERAL IRON, BUT MR. MESH STATED IT MAY BE RELATED TO VEHICLE BATTERIES OR SELF-CLEANING OVENS IN THE UNPROCESSED SCRAP PILE THAT CAUGHT FIRE. APPARENTLY THESE TWO TYPES OF ITEMS CAN PRODUCE A CHARGE OR SPARK IF NOT MANAGED PROPERLY OR REMOVED. 12/6/15, 802128
	fire	
Fencing		"photo A) section of perimeter fence not obscuring the facility as outlined in permit special condition #21, this to be addressed by reinspection. Photo B) a portion of the perimeter wall adjacent to the river had been missing, this had been addressed by the addition of cement to close the space." 2/17/16, 809093. still appears to be an issue on 3/31/16, 830775 photo A) a portion of the perimeter wall adjacent to the river is missing, threatening possible infiltration to the waters if left unaddresed. This to be addressed by reinspection. 12/7/15, 804947

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

THE UNITED STATES OF AMERICA,	)	
	)	
Plaintiff,	)	No. 04 C 6820
	)	
v.	)	
	)	Judge Lefkow
GENERAL IRON INDUSTRIES, INC.,	)	
	)	
Defendant.	)	

CONSENT DECREE

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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
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THE UNITED STATES OF AMERICA,	)	
	)	
Plaintiff,	)	No. 04 C 6820
	)	
v.	)	
	)	Judge Lefkow
GENERAL IRON INDUSTRIES, INC.,	)	
	)	
Defendant.	)	

CONSENT DECREE

WHEREAS, Plaintiff, United States of America, on behalf of the United States Environmental Protection Agency ("EPA"), filed a Complaint in this action on October 22, 2004, alleging that Defendant General Iron Industries, Inc., disposed of refrigerant-containing appliances in a manner which violated Section 608 of the Act, 42 U.S.C.§ 7671g, and its implementing regulations at 40 C.F.R. Part 82, Subpart F.

WHEREAS, the Complaint against Defendant alleges, pursuant to Section 113(b) of the Clean Air Act ("CAA" or "the Act"), 42 U.S.C. § 7413(b), that up until May 1999, Defendant knowingly disposed of appliances containing Class I and/or Class II substances used as refrigerant, causing venting of those substances into the environment in violation of 40 C.F.R. § 82.154 (a). The Complaint further alleges that in violation of 40 C.F.R.§ 82.156 (f), Defendant failed either to recover the refrigerant from the appliances prior to disposal, or to obtain the required verification that all remaining refrigerant had been recovered from the appliances and that the appliances no longer contained any refrigerant.

WHEREAS, the Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and will avoid litigation between the Parties, and that this Consent Decree is fair, reasonable, and in the public interest.

NOW, THEREFORE, with the consent of the Parties, IT IS HEREBY ADJUDGED, ORDERED, AND DECREED as follows:

I. JURISDICTION AND VENUE

1. This Court has jurisdiction over this action pursuant to Section 113(b) of the Clean Air Act, 42 U.S.C.§ 7413 (b), and 28 U.S.C. §§ 1331, 1345 and 1355, and over the parties.

2. Venue is proper in this District pursuant to Section 113 (b) of the Clean Air Act, 42 U.S.C.§ 7413 (b), and 28 U.S.C.§§ 1391 (b) and (c) and 1395 (a), because General Iron's facility is located in the Northern District of Illinois, and because this is the judicial district in which the events giving rise to the claim occurred. For purposes of this Decree, or any action to enforce this Decree, Defendant consents to the Court's jurisdiction over this Decree or such action and over Defendant, and consents to venue in this judicial district.

3. Defendant stipulates that EPA has jurisdiction over the subject matter alleged in the Complaint and that the Complaint states a claim upon which relief can be granted against Defendant pursuant to Section 113(b) of the Clean Air Act, 42 U.S.C.§ 7413 (b). Defendant waives any defenses it might have as to jurisdiction and venue, and, without admitting or denying the factual allegations contained in the Complaint, consents to the terms of this Consent Agreement and Order.

II. APPLICABILITY

4. The obligations of this Consent Decree apply to and are binding upon the United States and upon Defendant, its agents, successors, and assigns.

5. Any transfer of ownership or operation of the Facility to any other person must be conditioned upon the transferee's agreement to undertake the obligations required by this Decree, as provided in a written agreement between Defendant and the proposed transferee, enforceable by the United States as third-party beneficiary of such agreement. At least 30 days prior to such transfer, Defendant shall provide a copy of this Consent Decree to the proposed transferee and shall simultaneously provide written notice of the prospective transfer, together with a copy of the proposed written agreement, to EPA Region 5, the United States Attorney for the Northern District of Illinois, and the United States Department of Justice, in accordance with Section XV of this Decree (Notices). Any attempt to transfer ownership or operation of the Facility without complying with this Paragraph constitutes a violation of this Decree. No transfer of ownership or operation of the Facility, whether in compliance with this Paragraph or otherwise, shall relieve Defendant of its obligation to ensure that the terms of the Decree are implemented.

6. Defendant shall provide a copy of this Consent Decree to all officers, employees, and agents whose duties might reasonably include compliance with any provision of this Decree. Defendant shall further provide the relevant SEP description to any contractor retained to perform work required under this Consent Decree. Defendant shall condition any such contract upon performance of the work in conformity with the relevant terms of this Consent Decree.

7. In any action to enforce this Consent Decree, Defendant shall not raise as a defense the failure by any of its officers, directors, employees, agents, or contractors to take any actions necessary to comply with the provisions of this Consent Decree.

III. DEFINITIONS

8. Terms used in this Consent Decree that are defined in the Act or in regulations promulgated pursuant to the Act shall have the meanings assigned to them in the Act or such regulations, unless otherwise provided in this Decree. Whenever the terms set forth below are used in this Consent Decree, the following definitions shall apply:

a. "Complaint" shall mean the Complaint filed by the United States in this action;

b. "Consent Decree" or "Decree" shall mean this Decree and all appendices attached hereto;

c. "CAA" means the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et seq.;

d. "Day" shall mean a calendar day unless expressly stated to be a working day. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or federal holiday, the period shall run until the close of business of the next working day;

e. "Defendant" shall mean General Iron Industries, Inc.;

f. "EPA" shall mean the United States Environmental Protection Agency and any successor departments or agencies of the United States;

g. "Facility" shall mean Defendant's recycling facility located at 1909 North Clifton Avenue in Chicago, Illinois;

h. "Interest" means the rate of interest specified for a money judgment in a civil case recovered in a district court pursuant to 28 U.S.C. § 1961;

i. "Paragraph" shall mean a portion of this Decree identified by an arabic numeral;

j. "Parties" shall mean the United States and Defendant;

k. "Section" shall mean a portion of this Decree identified by a roman numeral;

l. "State" shall mean the State of Illinois;

m. "United States" shall mean the United States of America, acting on behalf of EPA;

n. "Work" means all activities Defendant is required to perform under this Consent Decree.

IV. CIVIL PENALTY

9. Within 30 days after the Effective Date of this Consent Decree, Defendant shall pay the sum of two hundred and fifty thousand dollars ($250,000) as a civil penalty, together with Interest as defined in paragraph 8h, above running from the Effective Date of the Consent Decree. Payment shall be made by FedWire Electronic Funds Transfer ("EFT") to the U.S. Department of Justice in accordance with instructions to be provided to Defendant following lodging of the Consent Decree by the Financial Litigation Unit of the U.S. Attorney's Office for the Northen District of Illinois. At the time of payment, Defendant shall simultaneously send written notice of payment and

a copy of any transmittal documentation, which should reference DOJ case number 90-5-2-1-07322 and the United States Attorney's Office file number 2000V01962, to the United States in accordance with Section XV of this Decree (Notices).

10. Defendant shall not deduct the civil penalty paid under this Section in calculating its federal income tax.

V. COMPLIANCE REQUIREMENTS

11. It is the express purpose of the Parties in entering into this Consent Decree to further the goals of the CAA. By its signature to this Consent Decree, Defendant certifies that its Facility is now in compliance with the CAA and its implementing regulations, including, without limitation, Section 608 of the CAA, 42 U.S.C.§ 7671g, and its implementing regulations at 40 C.F.R. Part 82, Subpart F.

VI. SUPPLEMENTAL ENVIRONMENTAL PROJECTS

12. Defendant shall implement the following Supplemental Environmental Projects ("SEPs") as described in the following paragraphs:

a. Diesel Engine Vehicle Retrofits - $315,000.00

b. Gas-Powered Lawnmower Buy-Back Program - $90,000.00

c. GreenGrid Green Roof - $35,000.00

d. Natural Landscaping/River Restoration - $310,000.00

13. **Diesel Engine Vehicle Retrofits.** By no later than one year after the Effective Date of this Consent Decree, Defendant shall perform a SEP, expending $315,000 in eligible SEP costs

for a project retrofitting municipal diesel vehicles within the City of Chicago by installing pollution control devices to reduce the emissions of particulate matter and hydrocarbons. This SEP is described in Appendix A.

14. **Gas-Powered Lawnmower Buy-Back Program.** Within five years of the Effective Date of the Consent Decree or sooner, Defendant shall perform a SEP which will consist of participating in a series of gas-powered lawnmower buy-back events. This SEP is described in Appendix B.

15. **Green Roof SEP**. General Iron shall install an extensive Green Roof System ("Green Roof") at a cost of at least $35,000 for its building facility located at 1909 North Clinton, Chicago, Illinois 60614. This SEP is described in Appendix C.

16. **Natural Landscaping/River Restoration SEP**. General Iron will restore, cleanup, rebuild and re-vegetate the river edge of its property along the North Branch of the Chicago River at a cost of $310,000. This SEP is described in Appendix D.

17. These SEPs are intended to yield significant environmental or public health benefits and are beyond the requirements of existing law. In implementing the SEPs, Defendant shall spend not less than **$750,000** in eligible SEP costs. Except as provided in paragraph 14 and Appendix B, eligible SEP costs do not include costs associated with developing and implementing the projects under Section VI of this Decree. Nor do they include Defendant's overhead, additional employee time and salary, administrative expenses, legal fees, and contractor oversight. Eligible SEP costs also do not include costs which are inconsistent with the SEP descriptions in the attached appendices.

18. Defendant is responsible for the satisfactory completion of the SEPs in accordance with the requirements of this Decree. The Defendant may use contractors and/or consultants in planning and implementing the SEPs.

19. With regard to each SEP, Defendant certifies the truth and accuracy of each of the following:

a. That all cost information provided to EPA in connection with EPA's approval of the SEP is complete and accurate and represents a fair estimate of the costs necessary to implement the SEP;

b. That, as of the date of this Decree, Defendant is not required to perform or develop the SEP by any federal, state, or local law or regulation, nor is Defendant required to perform or develop the SEP by agreement, grant, or as injunctive relief awarded in any other action in any forum;

c. That the SEP is not a project that Defendant was planning or intending to construct, perform, or implement other than in settlement of the claims resolved in this Decree;

d. That Defendant has not received, and is not negotiating to receive, credit for the SEP in any other enforcement action; and

e. That Defendant will not receive any reimbursement for any portion of the SEP from any other person.

20. Within 30 days after the completion of each SEP, Defendant shall submit a SEP Completion Report to the United States, in accordance with Section XV of this Consent Decree (Notices). The SEP Completion Reports shall contain the following information:

a. A detailed description of the SEP as implemented;

b. A description of any problems encountered in completing the SEP and the solutions thereto;

c. An itemized list of all SEP costs;

d. Certification that the SEP has been fully implemented pursuant to the provisions of this Decree;

e. A description of the environmental and public health benefits resulting from implementation of the SEP (with a quantification of the benefits and pollutant reductions, if feasible);

f. The SEP Completion Report for the Diesel Retrofit SEP shall include:

1) An itemized list containing the following information for each retrofitted vehicle:

a) Vehicle type

b) Vehicle owner with contact name and phone number

c) Model year

d) Engine manufacturer

e) Engine size (Hp)

f) Estimated annual miles or hours of operation

g) Retrofit type per vehicle (e.g., oxidation catalyst, particulate filter)

h) Retrofit cost per vehicle (itemizing all retrofit costs, including installation costs)

i) Estimated fuel usage (gallons per year)

j) Estimated emissions reductions for particulate matter, hydrocarbons and carbon dioxide

k) Copy of invoices for purchase of control technologies

21. EPA may, in its sole discretion, require information in addition to that described in the preceding Paragraph, in order to determine the adequacy of SEP completion or eligibility of SEP costs.

22. Defendant bears the burden of clearly segregating eligible SEP costs from other costs not eligible for SEP credit. If EPA requests further information concerning the eligibility of SEP costs, any non-segregable cost evidence that contains both SEP eligible and non-SEP eligible cost items shall be disallowed in its entirety.

23. After receipt of each SEP Completion Report, the United States shall notify Defendant whether or not Defendant has satisfactorily completed the SEP. If the SEP has not been satisfactorily completed, or if the amount expended on performance of the SEP is less than the amount set forth in Paragraph 12, above, Stipulated Penalties shall be paid in accordance with paragraph 37.

24. Disputes concerning the satisfactory performance of the SEPs and the amount of eligible SEP costs may be resolved under Section X of this Decree (Dispute Resolution). No other disputes arising under this Section shall be subject to Dispute Resolution.

25. Each submission required under this Section shall be signed by an official with knowledge of the SEP and shall bear the certification language set forth in Paragraph 30, below.

26. Any public statement, oral or written, in print, film, or other media, made by Defendant making reference to any of the SEPs under this Decree shall include the following

language, "This project was undertaken in connection with the settlement of an enforcement action, United States v. General Iron Industries, Inc, taken on behalf of the Environmental Protection Agency under the Clean Air Act."

VII. REPORTING REQUIREMENTS

27. Defendant shall submit the following reports:

a. Within 30 days after the end of each semi-annual period *(i.e.*, by January 30 and July 30) until termination of this Decree pursuant to Section XIX, Defendant shall submit in writing a semi-annual report for the preceding six months that shall (1) identify any violation of this Consent Decree and provide an explanation of the violation's likely cause and of the remedial steps taken, and/or to be taken, to prevent or minimize such violation; (2) include a discussion of Defendant's progress in satisfying its obligations in connection with the compliance requirements provided for in this Decree (**Section V**); and (3) include a detailed report on Defendant's progress in completing the required SEPs, specified in Paragraphs 12 through 16, above, including an itemization of the dollar amounts expended.

b. If Defendant violates any requirement of this Consent Decree, Defendant shall notify the United States of such violation and its likely duration in writing within ten working days of the day Defendant first becomes aware of the violation, with an explanation of the violation's likely cause and of the remedial steps taken, and/or to be taken, to prevent or minimize such violation. If the cause of a violation cannot be fully explained at the time the report is due, Defendant shall include a statement to that effect in the report. Defendant shall investigate to determine the cause of the violation and then shall submit an amendment to

the report, including a full explanation of the cause of the violation, within 30 days of the day Defendant becomes aware of the cause of the violation, or when the next semi-annual report is due, whichever is earlier.

c. Defendant shall submit SEP Completion Reports to the United States, as specified in paragraph 20, above.

28. In the case of any violation or other event that may pose an immediate threat to the public health, welfare, or the environment, Defendant shall notify EPA orally or by electronic or facsimile transmission as soon as possible, but not later than 24 hours after Defendant first knew of, or should have known of, the violation or event. This procedure is in addition to the requirements set forth in the preceding Paragraph.

29. All reports shall be submitted to the persons designated in Section XV of this Consent Decree (Notices).

30. Each report submitted by Defendant under this Section shall be signed by an official of the submitting party and include the following certification:

> I certify under penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that this document and its attachments were prepared either by me personally or under my direction or supervision in a manner designed to ensure that qualified and knowledgeable personnel properly gather and present the information contained therein. I further certify, based on my personal knowledge or on my inquiry of those individuals immediately responsible for obtaining the information, that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing and willful submission of a materially false statement.

31. The reporting requirements of this Consent Decree do not relieve Defendant of any reporting obligations required by the Clean Air Act or implementing regulations, or by any other federal, state, or local law, regulation, permit, or other requirement.

32. Any information provided pursuant to this Consent Decree may be used by the United States in any proceeding to enforce the provisions of this Consent Decree and as otherwise permitted by law.

VIII. STIPULATED PENALTIES

33. If Defendant fails to pay the civil penalty required to be paid under Section IV (Civil Penalty) of this Decree when due, Defendant shall pay a stipulated penalty of **$2,000** per day for each day that the payment is late. Late payment of the civil penalty shall be made in accordance with Section IV, Paragraph 9, above. Stipulated Penalties shall be paid in accordance with instructions to be obtained from the Financial Litigation Unit of the United States' Attorney's Office. All transmittal correspondence shall state that any such payment is for late payment of the civil penalty due under this Decree, or for Stipulated Penalties for late payment, as applicable, and shall include the identifying information set forth in Paragraph 9, above.

34. Defendant shall be liable for Stipulated Penalties to the United States for violations of this Consent Decree as specified below, unless excused under Section IX (Force Majeure). A violation includes failing to complete any activity required by this Decree, according to all applicable requirements of this Decree and within the specified time schedules established by or approved under this Decree.

35. Timely Completion of SEPs The following Stipulated Penalties shall accrue per violation per day for each violation of the requirements identified in Subparagraph b, below:

Penalty Per Violation Per Day	Period of Noncompliance
$500	1st through 30th day
$1000	31st day and beyond

b. (1) Completion of the installation of the Green Roof within one year of entry of the Consent Decree.

(2) Completion of the installation of the natural landscaping as described in Appendix D within two years of entry of the Consent Decree.

c. The penalties for failure to timely complete the SEPs may be waived by written agreement of EPA

36. Reporting Requirements The following Stipulated Penalties shall accrue per violation per day for each violation of the reporting requirements of Section VII of this Consent Decree:

Penalty Per Violation Per Day	Period of Noncompliance
$125	1st through 14th day
$250	15th through 30th day
$750	31st day and beyond

If the report is submitted late, then Stipulated Penalties began to accrue immediately. If Defendant in good faith timely submits a report required by Section VII of the Consent Decree and EPA determines that a component of the report is deficient, EPA will provide notice in writing of the deficiency and allow Defendant 14 days to correct the deficiency. In this circumstance, Stipulated Penalties will not begin to accrue until the expiration of this 14-day period.

37. SEP Compliance

a. If Defendant fails to satisfactorily complete the Diesel Retrofit SEP, Defendant shall pay a stipulated penalty of $345,000 less the amount spent to successfully retrofit vehicles in accordance with Appendix A. If defendant satisfactorily completes the Diesel Retrofit SEP but expends less than $315,000, then Defendant shall pay a stipulated penalty of $315,000 less the amount spent to successfully retrofit vehicles in accordance with Appendix A.

b. If Defendant fails to satisfactorily complete the Green Roof SEP, Defendant shall pay a stipulated penalty of $35,000. If Defendant satisfactorily completes the Green Roof SEP, but spends less than $35,000, then Defendant shall pay a stipulated penalty equal to the difference between $35,000 and the amount of eligible SEP costs incurred.

c. If Defendant fails to satisfactorily complete the Natural Landscaping/River Restoration SEP, Defendant shall pay a stipulated penalty of $310,000. If Defendant satisfactorily completes this SEP, but spends less than $310,000, then Defendant shall pay a stipulated penalty equal to the difference between $310,000 and the amount of eligible SEP costs incurred.

d. If Defendant fails to satisfactorily complete the Gas-Powered Lawnmower Buy-Back SEP, Defendant shall pay a stipulated penalty equal to the difference between $90,000 and the combined amount of eligible cash-worth equivalent SEP credits earned by the Defendant for this SEP and SEP credit for out-of-pocket expenses related to the lawnmower buy-back events.

e. Stipulated penalties under this paragraph are due *without demand* within 30 days after the required completion date for each SEP. If Defendant reasonably believes that it has spent the required amount of money on a SEP, but EPA determines stipulated penalties are due because some of the claimed expenses are not eligible for SEP credit, the Stipulated Penalties are due 30 days after Defendant receives the United States' written demand.

38. Defendant shall pay any Stipulated Penalty within 30 days of receiving the United States' written demand, except for Stipulated Penalties payable under Paragraph 37, above, which are payable upon accrual.

39. The United States may, in the unreviewable exercise of its discretion, reduce or waive Stipulated Penalties otherwise due it under this Consent Decree.

40. Except as provided in Paragraph 37, above, and notwithstanding the date of any demand for such penalties pursuant to Paragraph 38, above, Stipulated Penalties shall begin to accrue on the day after performance is due or on the day a violation occurs (as set forth in paragraphs 33 - 37(d)), whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated Penalties shall simultaneously accrue for separate violations of this Consent Decree.

41. Stipulated Penalties shall continue to accrue as provided in this Section during any Dispute Resolution, with Interest on accrued penalties payable and calculated at the rate established by the Secretary of the Treasury, pursuant to 28 U.S.C. § 1961, but need not be paid until the following:

a. If the dispute is resolved by agreement or by a decision of EPA that is not appealed to the Court, Defendant shall pay accrued penalties determined to be owing,

together with Interest, to the United States within 30 days of the effective date of the agreement or the receipt of EPA's decision or order;

b. If the dispute is appealed to the Court and the United States prevails in whole or in part, Defendant shall pay all accrued penalties determined by the Court to be owing, together with Interest, within 60 days of receiving the Court's decision or order, except as provided in Subparagraph c, below;

c. If any Party appeals the District Court's decision, Defendant shall pay all accrued penalties determined to be owing, together with Interest, within 15 days of receiving the final appellate court decision. (This section does not require the Defendant to pay penalties to the extent that it prevails in the dispute.)

42. Defendant shall pay Stipulated Penalties for violations occurring between the date of lodging and the Effective Date of this Consent Decree within 30 days of the Effective Date of this Decree.

43. Defendant shall, as directed by the United States, pay Stipulated Penalties owing to the United States in accordance with instructions which Defendant will obtain from the Financial Litigation Unit of the United States Attorney's Office.

44. Defendant shall not deduct Stipulated Penalties paid under this Section in calculating its federal income tax.

45. If Defendant fails to pay Stipulated Penalties according to the terms of this Consent Decree, the United States shall be entitled to collect Interest on such penalties, as provided for in 28 U.S.C. § 1961.

46. Failure by the United States to demand stipulated penalties shall have no effect on the accrual of such penalties.

47. Nothing herein shall preclude the simultaneous accrual of penalties for separate violations of this Consent Decree.

48. The stipulated penalties herein shall be in addition to, and shall in no way limit, other remedies or sanctions available to the United States by reason of Defendant's failure to comply with the requirements of this Decree and the Clean Air Act.

49. Subject to the provisions of Section XIII of this Consent Decree (Effect of Settlement/Reservation of Rights), the Stipulated Penalties provided for in this Consent Decree shall be in addition to any other rights, remedies, or sanctions available to the United States for Defendant's violation of this Consent Decree or applicable law.

IX. FORCE MAJEURE

50. A "force majeure event" is any event beyond the control of Defendant, its contractors, or any entity controlled by Defendant that delays the performance of any obligation under this Consent Decree despite Defendant's best efforts to fulfill the obligation. "Best efforts" includes anticipating any potential force majeure event and addressing the effects of any such event (a) as it is occurring and (b) after it has occurred, to prevent or minimize any resulting delay to the greatest extent possible. "Force Majeure" does not include Defendant's financial inability to perform any obligation under this Consent Decree.

51. Defendant shall provide notice orally or by electronic or facsimile transmission as soon as possible to EPA at the addresses provided in paragraph 70, but not later than 72 hours after

the time Defendant first knew of, or by the exercise of best efforts, should have known of, a claimed force majeure event. Defendant shall also provide written notice, as provided in Section XV of this Consent Decree (Notices), within seven (7) days of the time Defendant first knew of, or by the exercise of best efforts, should have known of, the event. The notice shall state the anticipated duration of any delay; its cause(s); Defendant's past and proposed actions to prevent or minimize any delay; a schedule for carrying out those actions; and Defendant's rationale for attributing any delay to a force majeure event. Failure to give such notice shall preclude Defendant from asserting any claim of force majeure. Defendant shall be deemed to know of any circumstance of which Defendant, its contractors, or any entity controlled by Defendant knew or, through best efforts, should have known.

52. If the United States agrees that a force majeure event has occurred, the United States may agree to extend the time for Defendant to perform the affected requirements for the time necessary to complete those obligations. An extension of time to perform the obligations affected by a force majeure event shall not, by itself, extend the time to perform any other obligation.

53. If the United States does not agree that a force majeure event has occurred, or does not agree to the extension of time sought by Defendant, the United States' position shall be binding, unless Defendant invokes Dispute Resolution under Section X of this Consent Decree. In any such dispute, Defendant bears the burden of proving, by a preponderance of the evidence, that each claimed force majeure event is a force majeure event; that Defendant gave the notice required by Paragraph 51; that the force majeure event caused any delay Defendant claims was attributable to that event; and that Defendant exercised best efforts to prevent or minimize any delay caused by the event.

X. DISPUTE RESOLUTION

54. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Decree. However, such procedures shall not apply to actions by the United States to enforce obligations of the Defendant that have not been disputed in accordance with this Section.

55. Informal Dispute Resolution. Any dispute reviewable under this Consent Decree shall first be the subject of informal negotiations. The period of informal negotiations shall not exceed 30 days from the time Defendant sends the United States a written Notice of Dispute in accordance with Section XV of this Consent Decree (Notices), unless that period is modified by written agreement. Such Notice of Dispute shall state clearly the matter in dispute. If the Parties cannot resolve a dispute by informal negotiations, then the position advanced by the United States shall be considered binding unless, within 20 days after the conclusion of the informal negotiation period, Defendant invokes formal dispute resolution procedures as set forth below.

56. Formal Dispute Resolution. Defendant shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by filing with the Court and serving on the United States, in accordance with Section XV of this Consent Decree (Notices), a motion requesting judicial resolution of the dispute. The motion shall contain a written statement of Defendant's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Decree.

a. The United States shall respond to Defendant's motion within the time period provided in the Local Rules of this Court, unless the parties stipulate otherwise. Defendant may file a reply memorandum, to the extent permitted by the Local Rules or the Parties' stipulation, as applicable.

b. In any dispute under this Paragraph, Defendant shall bear the burden of demonstrating that its position clearly complies with and furthers the objectives of this Consent Decree and the Clean Air Act. The United States reserves the right to argue that its position is reviewable only on the administrative record and must be upheld unless arbitrary and capricious or otherwise not in accordance with law.

57. Invoking dispute resolution procedures under this Section shall not extend, postpone, or affect in any way any obligation of Defendant under this Consent Decree, not directly in dispute, unless the United States agrees, or the Court (upon timely application pursuant to this Section) determines otherwise. Stipulated Penalties with respect to the disputed matter shall continue to accrue from the first day of noncompliance, but payment shall be stayed pending resolution of the dispute as provided in this Section, above. If Defendant does not prevail on the disputed issue, Stipulated Penalties shall be assessed and paid as provided in Section VIII (Stipulated Penalties). To the extent that Defendant prevails on the disputed issue, it does not have to pay costs, penalties or the interest that accrued during the dispute.

XI. INFORMATION COLLECTION AND RETENTION

58. The United States and its representatives, including attorneys, contractors, and consultants, shall have the right of entry to any facility covered by this Consent Decree, at all reasonable times, upon presentation of credentials to:

a. monitor the progress of activities required under this Consent Decree;

b. verify any data or information submitted to the United States in accordance with the terms of this Consent Decree; obtain samples and, upon request, splits of any samples taken by Defendant or its representative, contractors, or consultants;

c. obtain documentary evidence, including photographs and similar data; and

d. assess Defendant's compliance with this Consent Decree.

59. Until three (3) years after the termination of this Consent Decree, Defendant shall retain, and shall instruct its contractors and agents to preserve, all non-identical copies of all records and documents (including records or documents in electronic form) in its or its contractors' or agents' possession or control, or that come into its or its contractors' or agents' possession or control, and that relate in any manner to Defendant's performance of its obligations under this Consent Decree. This record retention requirement shall apply regardless of any corporate or institutional document-retention policy to the contrary. At any time during this record-retention period, the United States may request copies of any documents or records required to be maintained under this Paragraph.

60. At the conclusion of the document-retention period provided in the preceding Paragraph, Defendant shall notify the United States at least 90 days prior to the destruction of any records or documents subject to the requirements of the preceding Paragraph, and, upon request by

the United States, Defendant shall deliver any such records or documents to EPA. Defendant may assert that certain documents, records, or other information is privileged under the attorney-client privilege or any other privilege recognized by federal law. If Defendant asserts such a privilege, it shall provide the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege asserted by Defendant. However, no documents, reports, or other information created or generated pursuant to the requirements of this Consent Decree shall be withheld on the grounds that they are privileged.

61. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States pursuant to applicable federal or state laws, regulations, or permits.

XII. FAILURE OF COMPLIANCE

62. The United States does not, by its consent to the entry of this Consent Decree, warrant or aver in any manner that Defendant's compliance with any aspect of this Consent Decree will result in compliance with provisions of Section 608 of the Act, 42 U.S.C. § 7671g, or implementing regulations at 40 C.F.R. Part 82, Subpart F. Notwithstanding the United States' review and approval of any documents submitted to it by Defendant pursuant to this Consent Decree, Defendant shall remain solely responsible for compliance with the terms of the Act and this Consent Decree.

XIII. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

63. This Consent Decree resolves the civil claims of the United States that General Iron disposed of refrigerant-containing appliances at the Facility in a manner which violated 40 C.F.R. §§ 82.154 (a) and 82.156 (f), through the date of lodging of the Consent Decree.

64. This Consent Decree shall not be construed to prevent or limit the rights of the United States to obtain penalties or injunctive relief under the Act, or under other federal or state laws, regulations, or permit conditions, except as expressly specified herein.

65. Defendant is responsible for achieving and maintaining complete compliance with all applicable federal, State, and local laws, regulations, and permits; and Defendant's compliance with this Consent Decree shall be no defense to any action commenced pursuant to said laws, regulations, or permits. This Consent Decree is not a permit, or a modification of any permit, under any federal, State, or local laws or regulations.

66. This Consent Decree does not limit or affect the rights of Defendant or of the United States against any third parties, not party to this Consent Decree, nor does it limit the rights of third parties, not party to this Consent Decree, against Defendant, except as otherwise provided by law.

67. This Consent Decree shall not be construed to create rights in, or grant any cause of action to, any third party not party to this Consent Decree.

68. The United States reserves all legal and equitable remedies available to enforce the provisions of this Consent Decree, except as expressly stated herein. The United States further reserves all legal and equitable remedies to address any imminent and substantial endangerment to the public health, welfare, or the environment arising at, or posed by, Defendant's Facility and whether related to the violations addressed in this Consent Decree or otherwise.

XIV. COSTS

69. The Parties shall bear their own costs of this action, including attorneys fees, except that the United States shall be entitled to collect the costs (including attorneys fees) incurred in any action necessary to collect any portion of the civil penalty or any Stipulated Penalties due but not paid by Defendant.

XV. NOTICES

70. Unless otherwise specified herein, whenever notifications, submissions, or communications are required by this Consent Decree, they shall be made in writing and addressed as follows:

To the United States:

Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Box 7611 Ben Franklin Station
Washington, D.C. 20044-7611
Re: DOJ No. 90-5-2-1-07322

and

Jonathan C. Haile
Assistant United States Attorney
United States Attorney
Northern District of Illinois
Dirksen Federal Building
219 S. Dearborn Street, 5th Floor
Chicago, Illinois 60604

To EPA:

Air Enforcement and Compliance Assurance Branch
ATTN: Compliance Tracker
Air Enforcement Branch, AE-17J
U.S. EPA, Region V
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

and

Thomas J. Kenney
Senior Attorney
Office of Regional Counsel (C-14J)
U.S. EPA, Region V
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

To Defendant:

Adam Labkon
General Iron Industries, Inc.
1909 North Clifton Avenue
Chicago, Illinois 60614

and

Stephen A. Swedlow
Swedlow & Associates
205 N. Michigan Ave.
Suite 1940
Chicago, Illinois 60601

71. Any Party may, by written notice to the other Parties, change its designated notice recipient or notice address provided above.

72. Notices submitted pursuant to this Section shall be deemed submitted upon mailing, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

XVI. EFFECTIVE DATE

73. The Effective Date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court.

XVII. RETENTION OF JURISDICTION

74. The Court shall retain jurisdiction of this case until termination of this Consent Decree, for the purpose of enabling any of the Parties to apply to the Court for such further order, direction, or relief as may be necessary or appropriate for the construction or modification of this Consent Decree, or to effectuate or enforce compliance with its terms, or to resolve disputes in accordance with Section X of this Decree (Dispute Resolution).

XVIII. MODIFICATION

75. Subject to the Court's inherent power under the Federal Rules to alter or amend judgments, the terms of this Consent Decree may be modified only by a subsequent written agreement signed by all the Parties. Where the modification constitutes a material change to any term of this Decree, it shall be effective only upon approval by the Court.

XIX. TERMINATION

76. After Defendant has satisfactorily complied with all requirements of this Consent Decree, including those relating to the SEPs required by Section VI, and has paid the civil penalty and any accrued Stipulated Penalties as required by this Consent Decree, Defendant may serve upon

the United States a Request for Termination, stating that Defendant has satisfied those requirements, together with all necessary supporting documentation.

77. Following receipt by the United States of Defendant's Request for Termination, the Parties shall confer informally concerning the Request and any disagreement that the Parties may have as to whether Defendant has satisfactorily complied with the requirements for termination of this Consent Decree. If the United States agrees that the Decree may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Decree.

78. If the United States does not agree that the Decree may be terminated, Defendant may invoke Dispute Resolution under Section X of this Decree. However, Defendant shall not seek judicial resolution of any dispute, under Section X, until sixty days after service of its Request for Termination.

XX. PUBLIC PARTICIPATION

79. This Consent Decree shall be lodged with the Court for a period of not less than 30 days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate. Defendant consents to entry of this Consent Decree without further notice.

XXI. SIGNATORIES/SERVICE

80. Each undersigned representative of Defendant, and the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice (or her delegate)

certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

81. This Consent Decree may be signed in counterparts, and such counterpart signature pages shall be given full force and effect.

82. Defendant agrees not to oppose entry of this Consent Decree by the Court or to challenge any provision of the Decree, unless the United States has notified Defendant in writing that it no longer supports entry of the Decree.

83. Defendant agrees to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to waive the formal service requirements set forth in Rule 4 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons.

XXII. INTEGRATION/APPENDICES

84. This Consent Decree constitutes the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in the Decree and supersedes all prior agreements and understandings, whether oral or written. No other document, nor any representation, inducement, agreement, understanding, or promise, constitutes any part of this Decree or the settlement it represents, nor shall it be used in construing the terms of this Decree.

XXIII. FINAL JUDGMENT

85. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment between the United States and Defendant.

Dated and entered this _____ day of _____, _____.

_____

Judge Joan Lefkow
UNITED STATES DISTRICT JUDGE
Northern District of Illinois

Through their undersigned representatives, the Parties agree and consent to entry of the foregoing Consent Decree in United States of America v. General Iron Industries, Inc.:

FOR PLAINTIFF UNITED STATES OF AMERICA:

SUE ELLEN WOOLDRIDGE
Assistant Attorney General
Environment and Natural Resources
Division
United States Department of Justice

_____ Date: _____

W. BENJAMIN FISHEROW
Deputy Section Chief
Environment and Natural Resources
Division
United States Department of Justice

PATRICK J. FITZGERALD
United States Attorney

By: _____ Date: _____
JONATHAN C. HAILE
Assistant United States Attorney
Northern District of Illinois
Dirksen Federal Building
219 S. Dearborn Street, 5th Floor
Chicago, Illinois 60604

Through their undersigned representatives, the Parties agree and consent to entry of the foregoing Consent Decree in United States of America v. General Iron Industries, Inc.:

Date: _____

GRANTA Y. NAKAYAMA
Assistant Administrator for Enforcement
U.S. Environmental Protection Agency

Through their undersigned representatives, the Parties agree and consent to entry of the foregoing Consent Decree in United States of America v. General Iron Industries, Inc.:

_____ Date: _____

BHARAT MATHUR
Acting Regional Administrator
Region V
U.S. Environmental Protection Agency

_____ Date: _____

THOMAS J. KENNEY
Associate Regional Counsel
U.S. Environmental Protection Agency
Region V
77 West Jackson Boulevard (C-14J)
Chicago, Illinois 60604

Through their undersigned representatives, the Parties agree and consent to entry of the foregoing Consent Decree in United States of America v. General Iron Industries, Inc.:

FOR DEFENDANT, General Iron Industries, Inc.:

Adam Judd, Vice President
[NAME, TITLE]

Date: 7/24/2006

APPENDICES

CONSENT AGREEMENT APPENDIX A
DIESEL RETROFIT SUPPLEMENTAL ENVIRONMENTAL PROJECT

1. The General Iron Retrofit SEP ("Retrofit SEP") involves reducing particulate matter and other harmful air pollutants from diesel engine exhaust by retrofitting diesel oxidation catalyst devices onto City of Chicago diesel vehicles to minimize the emissions from these vehicles. These emissions contribute to acid rain, ground-level ozone and reduced visibility. The vehicles and equipment covered by the Retrofit SEP are currently operated and maintained by the City of Chicago Department of Fleet Management. The Retrofit SEP is designed to benefit the populations within the general geographic area in which the General Iron facility is located.

2. General Iron will retrofit approximately 250 City of Chicago diesel vehicles with diesel oxidation catalysts manufactured by the International Truck and Engine Corporation as described in the attached brochure. The effectiveness of these catalysts has been verified byEPA. The vehicles to be retrofitted will be chosen from among the vehicles listed in Table 1 attached hereto. Table II provides information about the vehicle types and estimated emission reductions. Each of these retrofits is estimated to cost approximately $1,260.

3. General Iron shall spend a total of $315,000 to implement the Retrofit SEP. Costs incurred for internal General Iron personnel (or entities in which General Iron has a financial interest) in the development and oversight of the SEP may not be credited against the $315,000 spending requirement.

4. For purposes of this SEP, "satisfactory completion" shall mean that General Iron demonstrates full involvement in the SEP and retrofits at least 200 vehicles with International diesel oxidation catalysts, or substitute device approved in writing by EPA. The retrofit SEP must be

completed within one year from the Effective Date of the Consent Decree, unless the time is extended by EPA's written agreement.

Diesel Particulate Filter (DPF)

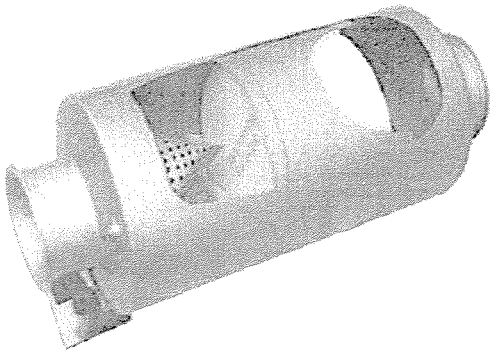
International® diesel particulate filters utilize the latest advancements in emission control technology from Engelhard, a world leader in emission technology.

Retrofit filters provide:
- *70-98% reduction in particulate matter (PM) and visible smoke; depending on fuel quality*
- *70-98% reduction in CO and HC*
- *Reduced odor*
- *Reduced noise*

Diesel particulate filters from International are passive systems and allow oxidation of PM at normal operating temperatures.

Benefits include:
- *Fuel sulfur tolerance. Although we require the use of ultra low sulfur fuel (15ppm), occasional use of higher sulfur fuel in emergency situations will not damage the system or stop the vehicle.*
- *Easy cleaning and maintenance. We recommend cleaning and visual inspection once every (12) twelve months or every 60,000 miles/100,000 kilometers. Certain applications may require more frequent service. International systems include a pressure monitor sensor, which will indicate the need for cleaning. Only removal of the non-toxic ash is required to clean the filter.*
- *No additional energy devices. DPF systems are designed to be passive systems and regenerate under normal vehicle operating conditions.*
- *Effective under most driving conditions. Idling does not substantially affect the performance of the DPF. During idling, very little PM is produced, and the PM that is produced is primarily oil and fuel that the DPF easily eliminates.*
- *Adaptability. The DPF is available for use on most diesel buses and medium trucks with electronic*

Diesel Oxidation Catalyst (DOC)



International® diesel oxidation catalyst is OEM engineered and built.

Retrofit catalyst provide:
- *20-30% reduction in particulate matter (PM)*
- *up to 50% reduction in carbon monoxide (CO) and hydrocarbons (HC)*
- *Harmful hydrocarbons (HC) are also reduced up to 50%*

Recommended for mechanical engine vehicles that do not qualify for the DPF.

Benefits include:
- *Proven low cost emissions reduction technology*
- *Easy to Install and requires no maintenance after installation.*
- *The muffler and catalyst are combined to provide sound attenuation and emission reduction capabilities.*

Green Diesel Technology ™ by International ® retrofit products have been Verified by The Federal EPA and eligible for Federal and most state and local grant funding. Manufactured with Stainless Steel materials for durability and corrosion resistance. Meets U.S. Federal on-highway vehicle noise regulations.

Additional information, can be found on the EPA website at www.epa.gov .

FOR BUSINESS AND THE ENVIRONMENT

Today in the U.S., almost all heavy trucks, medium trucks and buses are powered by diesel. And it's not just because of diesel's unsurpassed power and performance. Here are a few more reasons: Green Diesel Technology® vehicles developed by International and IC Corporation, International's wholly-owned affiliate, are the wave of the future. Using the breakthrough advantages of advanced diesel engine technology, particulate filters and ultra-low-sulfur diesel fuel, some engines developed by International have already been certified as meeting the U.S. Environmental Protection Agency's 2007 standards for particulate matter (PM) and hydrocarbons (HC). And there's even more improvement on the way. International's retrofit kits are another part of the emission improvement line of products offered through all authorized International and IC bus dealer locations. You can rest assured all federal guidelines will be met – and that we'll continue to provide you with clean trucks and buses that move you ahead, on the road and in your business.

TABLE 1

4/26/2006

GENERAL IRON	CHICAGO INTERNATIONAL
60	2006 AUTOCAR XPEDITOR
2	2006 AUTOCAR XPEDITOR
62	

	GENERAL IRON	CHICAGO INTERNATIONAL
1	S10149	2005 AUTOCAR EXPEDITOR
2	S10148	2005 AUTOCAR EXPEDITOR
3	S10147	2005 AUTOCAR EXPEDITOR
4	S10146	2005 AUTOCAR EXPEDITOR
5	S10145	2005 AUTOCAR EXPEDITOR
6	S10144	2005 AUTOCAR EXPEDITOR
7	S10143	2005 AUTOCAR EXPEDITOR
8	S10142	2005 AUTOCAR EXPEDITOR
9	S10141	2005 AUTOCAR EXPEDITOR
10	S10140	2005 AUTOCAR EXPEDITOR
11	S10139	2005 AUTOCAR EXPEDITOR
12	S10138	2005 AUTOCAR EXPEDITOR
13	S10137	2005 AUTOCAR EXPEDITOR
14	S10136	2005 AUTOCAR EXPEDITOR
15	S10135	2005 AUTOCAR EXPEDITOR
16	S10134	2005 AUTOCAR EXPEDITOR
17	S10133	2005 AUTOCAR EXPEDITOR
18	S10132	2005 AUTOCAR EXPEDITOR
19	S10131	2005 AUTOCAR EXPEDITOR
20	S10130	2005 AUTOCAR EXPEDITOR
21	S10129	2005 AUTOCAR EXPEDITOR
22	S10128	2005 AUTOCAR EXPEDITOR
23	S10127	2005 AUTOCAR EXPEDITOR
24	S10126	2005 AUTOCAR EXPEDITOR
25	S10125	2005 AUTOCAR EXPEDITOR
26	S10124	2005 AUTOCAR EXPEDITOR
27	S10123	2005 AUTOCAR EXPEDITOR
28	S10122	2005 AUTOCAR EXPEDITOR
29	S10121	2005 AUTOCAR EXPEDITOR
30	S10818	2001 VOLVO XPEDITOR
31	S10817	2001 VOLVO XPEDITOR
32	S10816	2001 VOLVO XPEDITOR
33	S10815	2001 VOLVO XPEDITOR
34	S10814	2001 VOLVO XPEDITOR
35	S10813	2001 VOLVO XPEDITOR
36	S10812	2001 VOLVO XPEDITOR
37	S10811	2001 VOLVO XPEDITOR
38	S10810	2001 VOLVO XPEDITOR

TABLE 1

39 S10809	2001 VOLVO XPEDITOR
40 S10808	2001 VOLVO XPEDITOR
41 S10807	2001 VOLVO XPEDITOR
42 S10806	2001 VOLVO XPEDITOR
43 S10805	2001 VOLVO XPEDITOR
44 S10804	2001 VOLVO XPEDITOR
45 S10803	2001 VOLVO XPEDITOR
46 S10802	2001 VOLVO XPEDITOR
47 S10801	2001 VOLVO XPEDITOR
48 S10800	2001 VOLVO XPEDITOR
49 S10789	1999 VOLVO XPEDITOR
50 S10788	1999 VOLVO XPEDITOR
51 S10787	1999 VOLVO XPEDITOR
52 S10786	1999 VOLVO XPEDITOR
53 S10785	1999 VOLVO XPEDITOR
54 S10784	1999 VOLVO XPEDITOR
55 S10783	1999 VOLVO XPEDITOR
56 S10782	1999 VOLVO XPEDITOR
57 S10781	1999 VOLVO XPEDITOR
58 S10780	1999 VOLVO XPEDITOR
59 S10779	1999 VOLVO XPEDITOR
60 S10778	1999 VOLVO XPEDITOR
61 S10777	1999 VOLVO XPEDITOR
62 S10776	1999 VOLVO XPEDITOR
63 S10775	1999 VOLVO XPEDITOR
64 S10774	1999 VOLVO XPEDITOR
65 S10773	1999 VOLVO XPEDITOR
66 S10772	1999 VOLVO XPEDITOR
67 S10771	1999 VOLVO XPEDITOR
68 S10770	1999 VOLVO XPEDITOR
69 S10769	1999 VOLVO XPEDITOR
70 S10768	1999 VOLVO XPEDITOR
71 S10767	1999 VOLVO XPEDITOR
72 S10766	1999 VOLVO XPEDITOR
73 S10765	1999 VOLVO XPEDITOR
74 S10764	1999 VOLVO XPEDITOR
75 S10763	1999 VOLVO XPEDITOR
76 S10762	1999 VOLVO XPEDITOR
77 S10761	1999 VOLVO XPEDITOR
78 S10760	1999 VOLVO XPEDITOR
79 S10759	1999 VOLVO XPEDITOR
80 S10758	1999 VOLVO XPEDITOR
81 S10757	1999 VOLVO XPEDITOR
82 S10756	1999 VOLVO XPEDITOR
83 S10755	1999 VOLVO XPEDITOR
84 S10754	1999 VOLVO XPEDITOR
85 S10753	1999 VOLVO XPEDITOR
86 S10752	1999 VOLVO XPEDITOR
87 S10751	1999 VOLVO XPEDITOR
88 S10750	1999 VOLVO XPEDITOR
89 S10749	1999 VOLVO XPEDITOR
90 S10748	1999 VOLVO XPEDITOR

TABLE 1

91 S10747	1999 VOLVO XPEDITOR
92 S10746	1999 VOLVO XPEDITOR
93 S10745	1999 VOLVO XPEDITOR
94 S10744	1999 VOLVO XPEDITOR
95 S10743	1999 VOLVO XPEDITOR
96 S10742	1999 VOLVO XPEDITOR
97 S10741	1999 VOLVO XPEDITOR
98 S10740	1999 VOLVO XPEDITOR
99 S10739	1999 VOLVO XPEDITOR
100 S10738	1999 VOLVO XPEDITOR
101 S10737	1999 VOLVO XPEDITOR
102 S10736	1999 VOLVO XPEDITOR
103 S10735	1999 VOLVO XPEDITOR
104 S10734	1999 VOLVO XPEDITOR
105 S10733	1999 VOLVO XPEDITOR
106 S10732	1999 VOLVO XPEDITOR
107 S10731	1999 VOLVO XPEDITOR
108 S10730	1999 VOLVO XPEDITOR
109 S10729	1999 VOLVO XPEDITOR
110 S10728	1999 VOLVO XPEDITOR
111 S10727	1999 VOLVO XPEDITOR
112 S10726	1999 VOLVO XPEDITOR
113 S10725	1999 VOLVO XPEDITOR
114 S10654	1997 VOLVO XPEDITOR
115 S10653	1997 VOLVO XPEDITOR
116 S10652	1997 VOLVO XPEDITOR
117 S10651	1997 VOLVO XPEDITOR
118 S10650	1997 VOLVO XPEDITOR
119 S10649	1997 VOLVO XPEDITOR
120 S10648	1997 VOLVO XPEDITOR
121 S10647	1997 VOLVO XPEDITOR
122 S10646	1997 VOLVO XPEDITOR
123 S10645	1997 VOLVO XPEDITOR
124 S10644	1997 VOLVO XPEDITOR
125 S10643	1997 VOLVO XPEDITOR
126 S10642	1997 VOLVO XPEDITOR
127 S10641	1997 VOLVO XPEDITOR
128 S10640	1997 VOLVO XPEDITOR
129 S10639	1997 VOLVO XPEDITOR
130 S10638	1997 VOLVO XPEDITOR
131 S10637	1997 VOLVO XPEDITOR
132 S10636	1997 VOLVO XPEDITOR
133 S10635	1997 VOLVO XPEDITOR
134 S10634	1997 VOLVO XPEDITOR
135 S10633	1997 VOLVO XPEDITOR
136 S10632	1997 VOLVO XPEDITOR
137 S10631	1997 VOLVO XPEDITOR
138 S10630	1997 VOLVO XPEDITOR
139 S10629	1997 VOLVO XPEDITOR
140 S10628	1997 VOLVO XPEDITOR
141 S10627	1997 VOLVO XPEDITOR
142 S10626	1997 VOLVO XPEDITOR

TABLE 1

143 S10625	1997 VOLVO XPEDITOR
144 S10622	1996 VOLVO XPEDITOR
145 S10621	1996 VOLVO XPEDITOR
146 S10620	1996 VOLVO XPEDITOR
147 S10619	1996 VOLVO XPEDITOR
148 S10618	1996 VOLVO XPEDITOR
149 S10617	1996 VOLVO XPEDITOR
150 S10616	1996 VOLVO XPEDITOR
151 S10615	1996 VOLVO XPEDITOR
152 S10614	1996 VOLVO XPEDITOR
153 S10613	1996 VOLVO XPEDITOR
154 S10612	1996 VOLVO XPEDITOR
155 S10611	1996 VOLVO XPEDITOR
156 S10610	1996 VOLVO XPEDITOR
157 S10609	1996 VOLVO XPEDITOR
158 S10608	1996 VOLVO XPEDITOR
159 S10607	1996 VOLVO XPEDITOR
160 S10606	1996 VOLVO XPEDITOR
161 S10605	1996 VOLVO XPEDITOR
162 S10604	1996 VOLVO XPEDITOR
163 S10603	1996 VOLVO XPEDITOR
164 S10602	1996 VOLVO XPEDITOR
165 S10601	1996 VOLVO XPEDITOR
166 S10600	1996 VOLVO XPEDITOR
167 S10579	1996 VOLVO XPEDITOR
168 S10578	1996 VOLVO XPEDITOR
169 S10577	1996 VOLVO XPEDITOR
170 S10576	1996 VOLVO XPEDITOR
171 S10575	1996 VOLVO XPEDITOR
172 S10574	1996 VOLVO XPEDITOR
173 S10573	1996 VOLVO XPEDITOR
174 S10572	1996 VOLVO XPEDITOR
175 S10571	1996 VOLVO XPEDITOR
176 S10560	1996 VOLVO XPEDITOR
177 S10558	1996 VOLVO XPEDITOR
178 S10557	1996 VOLVO XPEDITOR
179 S10559	1995 VOLVO XPEDITOR
180 S10556	1995 VOLVO XPEDITOR
181 S10555	1995 VOLVO XPEDITOR
182 S10554	1995 VOLVO XPEDITOR
183 S10553	1995 VOLVO XPEDITOR
184 S10552	1995 VOLVO XPEDITOR
185 S10551	1995 VOLVO XPEDITOR
186 S10550	1995 VOLVO XPEDITOR
187 S10549	1995 VOLVO XPEDITOR
188 S10548	1995 VOLVO XPEDITOR

TABLE 1

REFUSE TRUCK RETROFITS - GENERAL IRON

20 CUBIC YARD REFUSE TRUCKS	3RB	S&S BUR OF SANITATION
16 CUBIC YARD REFUSE TRUCKS	3RB	S&S BUR OF SANITATION

REFUSE COMPACTOR TRUCK, REAR LOAD	3RB	S&S BUR OF SANITATION
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REFUSE COMPACTOR TRUCK, REAR LOAD	3RB	S&S BUR OF SANITATION
REFUSE COMPACTOR TRUCK, REAR LOAD	3RB	S&S BUR OF SANITATION

TABLE 2

QUANTITY	VEHICLE TYPE	OWNER	MODEL YEAR	ENGINE MANUFACTURER	ENGINE HP	AVERAGE ANNUAL MILES	RETROFIT TYPE	RETROFIT COST (INCL. INSTALLATION)	ESTIMATED EMISSIONS REDUCTIONS		
									PM	HC	CO
2	VOLVO XPEDITOR CAB OVER ENGINE DIESEL TRUCK CHASSIS WITH REFUSE BODY	CITY OF CHICAGO	2006	CUMMINS	285	TBD	INTERNATIONAL "GREEN DIESEL" OXIDATION CATALYST	$1,259.75	20% TO 30%	UP TO 50%	UP TO 50%
60			2006	CUMMINS	320	TBD					
29			2005	CUMMINS	320	5908					
19			2001	CUMMINS	305	8140					
30			1999	CUMMINS	305	7317					
35			1999	CATERPILLAR	305	7317					
30			1997	CATERPILLAR	305	7427					
35			1996	CATERPILLAR	305	7932					
10			1995	CATERPILLAR	305	7636					
250								$314,937.50			

CONSENT AGREEMENT APPENDIX B
GAS-POWERED LAWNMOWER BUY-BACK PROGRAM

1. Within five years of the Effective Date of the Consent Decree, Defendant shall perform a SEP which will consist of participating in a series of gas-powered lawnmower buy-back events. General Iron shall achieve a total combined cash-worth equivalency credit and SEP credit of $90,000 for its participation in these events. Gas-powered lawnmowers contribute to regional ozone problems (smog) by emitting pollutants including Volatile Organic Compounds (VOCs) and nitrogen oxides. The gas powered lawn-mowers will be surrendered and destroyed in exchange for discounts on the purchase of electric, battery or non-motorized lawnmowers, thereby improving air quality.

2. General Iron will coordinate and assist the Metropolitan Mayor's Caucus and Clean Air Counts in planning and conducting lawnmower buy-back events in Cook County. These events will take place at times to be determined by the Metropolitan Mayor's Caucus based on anticipated response. The lawnmower buy-back events will encourage households to trade-in their gas-powered lawnmower and receive a rebate certificate (to be provided through funding available to the Metropolitan Mayors' Caucus) on the purchase of an electric, battery or non-motorized lawnmower. The amount of the rebate certificate to be offered at each buy-back event shall be determined by the Metropolitan Mayors' Caucus.

3. General Iron shall receive a $3,000 cash-worth equivalent SEP credit for each lawnmower buy-back event in which it participates for providing the services enumerated in this paragraph. General Iron's obligation for its cash worth equivalent SEP credit are the following: provision for use and operation of a skid steer that will be equipped with a grapple or bucket to load

the lawn care products into the roll off boxes, mobilization of the equipment to and from the lawnmower buyback event, provision for roll-off boxes sufficient for the volume of lawnmowers collected at the event, trucking services for delivery, spotting and removal of the roll-off boxes and disposal of the recycled gas-powered lawnmowers, and full inspection and any required maintenance of all equipment to be used at the event. In addition to this $3,000 cash worth equivalent credit, General Iron will receive SEP credit for the following out-of-pocket expenditures related to the lawnmower buy-back events: cost of redeemed rebate certificates, advertising and promotional costs, all reimbursable municipal costs and hazardous waste disposal costs.

4. For purposes of this SEP, "satisfactory completion" shall mean that General Iron demonstrates full involvement in the SEP as described in this appendix and as documented in the SEP Completion Report and coordinates and assists the Metropolitan Mayor's Caucus and Clean Air Counts in conducting lawnmower buy-back event planning and execution at the times directed by the Metropolitan Mayor's Caucus.

5. If for any reason, Defendant has achieved less than $90,000 in combined cash-worth equivalent SEP credit and SEP credit for event-related expenses within five years of the Effective Date of this Consent Decree, General Iron shall pay the balance of the uncredited amount in cash in accordance with the payment requirements set forth in paragraph 37d of the Consent Decree. This payment shall be made within thirty days of the completion deadline.

CONSENT AGREEMENT APPENDIX C
GREEN ROOF SUPPLEMENTAL ENVIRONMENTAL PROJECT

1. The General Iron Green Roof Supplemental Environmental Project ("Green Roof SEP") involves installing and assembling an extensive Green Roof system on top of the conventional roof for the General Iron facility located at 1909 North Clifton Avenue, Chicago, Illinois 60614. The Green Roof SEP is designed to: improve water quality by managing storm water discharge from the roof, mitigate the urban heat island effect, and improve air quality through the reduction of smog-forming chemicals such as ground level ozone, particulates, and nitrous oxides (as well as carbon dioxide).

2. The Green Roof SEP will involve the assembly and installation of an extensive Green Roof system over at least 1,750 square feet of the existing conventional roof on the facility located at 1909 North Clifton Avenue, Chicago, Illinois 60614. "Extensive" means that the Green Roof system requires minimal maintenance and periodic fertilization. The components of this extensive Green Roof assembly include: edge restraints, a root barrier, a drainage core/moisture retention system, separation fabric and growing media at a two inch depth. Into this assembly will be placed 3,000 plugs of various root plants.

3. General Iron or its contractor shall, no later than sixty days from the Effective Date of this Consent Decree, apply for all permits required to construct the extensive Green Roof assembly described herein. The permit application will include, as necessary, structural engineering calculations sufficient to demonstrate that the subject facility can support the Green Roof assembly.

4. General Iron shall ensure that all contractor costs related to the SEP are reasonable and necessary for the satisfactory completion of the SEP. Costs incurred for internal General Iron

personnel (or entities in which General Iron has a financial interest) in the development and oversight of the SEP may not be credited against the $35,000 spending requirement.

5. General Iron or its contractor shall complete the assembly and installation of the extensive Green Roof system no later than one year from the Effective Date of the Consent Decree.

6. For purposes of this SEP, "satisfactory completion" shall mean that General Iron has successfully installed an extensive Green Roof assembly covering at least 1,750 square feet of the conventional roof on the facility located at 1909 North Clifton Avenue, Chicago, Illinois 60614, and maintained it for a period of five years.

7. If for any reason General Iron spends less than the full $35,000, General Iron shall pay the balance in accordance with the payment requirements set forth in paragraph 37. This payment shall be made within 30 days of the completion deadline in paragraph 5, above.

CONSENT AGREEMENT APPENDIX D
NATURAL LANDSCAPING SUPPLEMENTAL ENVIRONMENTAL PROJECT

1. The General Iron Natural Landscaping and River Restoration Supplemental Environmental Project ("Natural Landscaping SEP") involves the restoration, cleanup and re-vegetation of the river edge property along the North Branch of the Chicago River at the following locations: (1) 1441 North Magnolia, Chicago, Illinois 60602 ("Magnolia") and/or (2) 1066 West North Avenue, Chicago, Illinois 60622 ("North Avenue"). The Natural Landscaping SEP is designed to benefit the populations within the general geographic area in which the General Iron facility is located by reducing emissions of smog, hydrocarbons and carbon monoxide created by the landscaping maintenance equipment required for traditional turf grass. This Natural Landscaping SEP will also contribute to the reduction of the number of Ozone Alert days in Chicago, improve regional air quality, prevent land erosion, reduce the Greenhouse Effect and help combat global climate change by removing carbon dioxide from the atmosphere.

2. The Natural Landscaping SEP will involve the landscaping (as described herein) of at least a combined 450 linear feet measured along the edge of the Chicago River at Magnolia and/or North Avenue and a total landscaped area of at least 10,000 square feet along the river edge. General Iron shall spend at least $310,000 on the Natural Landscaping SEP.

3. The Natural Landscaping SEP will include the cleaning of debris and garbage from along the edge of the Chicago River at Magnolia and/or North Avenue. Dead trees and branches will be removed and trees pruned (or removed) as necessary. The River's edge will be prepared to the extent required to allow for the installation of a new retention wall (as limited herein) for the

purpose of changing the grade through addition of topsoil to enable the river edge property to sustain the contemplated landscaping described herein.

4. For the Natural Landscaping SEP, no more than $100,000 may be credited as eligible SEP costs for the installation of retention wall at the river edge at Magnolia and only for areas in which natural landscaping is installed at the river edge. However, General Iron is not required to install a retention wall for purposes of this SEP.

5. New trees and saplings will be planted to re-vegetate the area along the Chicago River at Magnolia and/or North Avenue. Species such as Marmo Maple, Bald Cypress, Accoclade Elm will be underplanted with Thornless Cockspur Hawthorn, Iroquois Beauty Chokeberry, Nearly Wild Rose, Miss Kim Lilac, Ralph Senior Viburnum, Golden Glory Dogwood, Chinese Lilac and Double Knockout Rose.

6. Perennials, grasses and seeding will include Little Spire Russian Sage, Black-Eyed Susan, Prairie Drop Seed with Alium and Liatris, and Short Grass Prairie Seed.

7. An irrigation system, including but not limited to supplemental waterline(s) to the planted and landscaped areas, will be installed to assist in the establishment of the landscaped areas. The waterlines will also be capable of providing supplemental water during periods of prolonged drought.

8. On or before 730 days after the entry of the Consent Decree, General Iron shall complete the installation of the natural landscaping at Magnolia and/or North Avenue.

9. For purposes of this Natural Landscaping SEP, "satisfactory completion" shall mean that General Iron has (1) restored and re-vegetated at least 450 linear feet of river edge property as described herein and at least 10,000 square feet of landscaping along the North Branch of the

Chicago River at North Avenue and Magnolia combined; (2) if necessary, rebuilt the river edge property; and (3) maintained the natural landscaping and its irrigation system for a period of five years after the Effective Date of this Consent Decree by the Court.

10. General Iron shall ensure that all contractor costs related to the SEP are reasonable and necessary for the satisfactory completion of the SEP. Costs incurred for internal General Iron personnel (or by entities in which General Iron has a financial interest) in the development and oversight of the SEP may not be credited against the $310,000 spending requirement.

11. If for any reason General Iron spends less than the full $310,000, General Iron shall pay the balance in accordance with the payment requirements set forth in paragraph 37. This payment shall be made within 30 days of the completion deadline in paragraph 8, above.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JUN 2 9 2012

REPLY TO THE ATTENTION OF:

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Jim Kallas
Environmental Manager
General Iron Industries, Inc.
1909 N. Clifton Avenue
Chicago, Illinois 60614

Re: General Iron Industries, Inc.
Administrative Consent Order EPA-5-12-113(a)-IL-04

Dear Mr. Kallas:

Enclosed is an executed original of the Administrative Consent Order regarding the above-captioned case. If you have any questions about the Order, please contact me at 312-886-3850.

Sincerely,

Nathan A. Frank, P.E.
Chief
Air Enforcement and Compliance Assurance Section (IL/IN)

Enclosure: Administrative Consent Order EPA-5-12-113(a)-IL-04

cc: Ray Pilapil, Air Quality Division
Illinois Environmental Protection Agency

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF:	)	
	)	
General Iron Industries, Inc.	)	**ADMINISTRATIVE ORDER**
Chicago, Illinois	)	
	)	**EPA-5-12-113(a)-IL-04**
Sections 113(a)(1) and 114(a)(1) of	)	
the Clean Air Act,	)	
42 U.S.C. §§ 7413(a)(1) and 7414(a)(1)	)	
	)	
	)	

Administrative Consent Order

1. The Director of the Air and Radiation Division U.S. Environmental Protection Agency, Region 5, is issuing this Administrative Consent Order (the Order) to General Iron Industries, Inc. (General Iron) under Sections 113(a)(1) and 114(a)(1) of the Clean Air Act (CAA or Act), 42 U.S.C. §§ 7413(a)(1) and 7414(a)(1).

Statutory and Regulatory Background

2. Section 108(a) of the Act, 42 U.S.C. § 7408(a), requires EPA to identify and prepare air quality criteria for each air pollutant, emissions of which may endanger public health or welfare and the presence of which results from numerous or diverse mobile or stationary sources. For each such "criteria" pollutant, Section 109 of the Act, 42 U.S.C. § 7409, requires EPA to promulgate national ambient air quality standards (NAAQS) requisite to protect the public health and welfare. Pursuant to Sections 108 and 109, EPA has identified and promulgated NAAQS for fine particulate matter that is 2.5 micrometers in diameter and smaller ($PM_{2.5}$ (1997)) and certain other pollutants.

3. Under Section 107(d) of the Act, 42 U.S.C. § 7407(d), each state is required to designate those areas within its boundaries where the air quality is better or worse than the

NAAQS for each criteria pollutant, or where the air quality cannot be classified due to insufficient data. An area that meets the NAAQS for a particular pollutant is an "attainment" area. An area that does not meet the NAAQS is a "non-attainment" area. An area that cannot be classified due to insufficient data is "unclassifiable."

4. Section 110 of the Act, 42 U.S.C. § 7410, requires each state to adopt and submit to EPA for approval a State Implementation Plan (SIP) that provides for the attainment and maintenance of the NAAQS.

5. Upon EPA approval, SIP requirements are federally enforceable under Section 113 of the Act, 42 U.S.C. §§ 7413(a), (b); 40 C.F.R. § 52.23.

6. EPA approved Title 35 of the Illinois Administrative Code (35 IAC) 212.301, governing fugitive particulate matter emissions, as part of the Illinois SIP on February 21, 1980. 45 Fed. Reg. 11493.

7. 35 IAC 212.301 provides that no person shall 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 emission source.

8. 35 IAC 201.141 requires that no person "cause or threaten or allow the discharge or emission of any contaminant into the environment in any State so as, either alone or in combination with contaminants from other sources, to cause or tend to cause air pollution in Illinois. . . . "

9. "Air Pollution" is defined as "the presence in the atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration as to be injurious to

human, plant, or animal life, to health, or to property, or to unreasonably interfere with the enjoyment of life or property." 35 IAC 201.102.

10. Under Section 113(a)(1)(A) of the Act, 42 U.S.C. § 7413(a)(l)(A), the Administrator of EPA may issue an order requiring compliance to any person who has violated or is violating a SIP. The Administrator has delegated this authority to the Director of the Air and Radiation Division. Section 113 also confers a right to meet about such a compliance order. That meeting was held on March 22, 2012.

11. The Administrator of EPA may require any person who owns or operates an emission source to make reports, measure emissions and provide information required by the Administrator under Section 114(a)(1) of the CAA, 42 U.S.C. § 7414(a)(1). The Administrator has delegated this authority to the Director of the Air and Radiation Division.

Findings

12. General Iron owns and operates a metals recycling facility at 1909 N. Clifton Avenue in Chicago, Cook County, Illinois (the facility).

13. Illinois Environmental Protection Agency (IEPA) issued an operating permit to General Iron on September 1, 2004, which allows for the operation of two metal shredders, the air emissions of which are controlled by a water suppression system at the facility.

14. The facility currently operates one shredder.

15. The shredder constitutes a part or activity at a stationary source that emits or has the potential to emit any air pollutant.

16. The shredder is an emission unit, as that term is defined 35 IAC 211.1950.

17. Emissions from the facility's shredder are subject to 35 IAC 212.301 of the Illinois SIP, which governs fugitive particulate matter emissions.

18. Cook County, Illinois is presently designated as non-attainment for the NAAQS for $PM_{2.5}$ (1997). 40 C.F.R. §§ 81.301, 81.304.

19. In 2010, EPA received smoke and odor complaints allegedly regarding General Iron.

20. On November 1 and 9, 2010, an EPA enforcement officer conducted site surveillance of the facility.

21. On the morning of November 9, 2010, the EPA inspector observed fugitive particulate matter from the shredder crossing beyond the property line of the emission source at the facility.

22. On December 10, 2010, EPA issued a Notice of Violation (NOV) to General Iron alleging that it violated 35 IAC 212.301 and 35 IAC 201.141.

23. Representatives of General Iron and EPA met to discuss the allegations in the NOV on January 19, 2011.

24. As a result, General Iron performed a feasibility study in 2011 and 2012. General Iron presented its findings and compliance proposal to EPA on March 22, 2012.

Compliance Program

25. General Iron must comply with all requirements of the CAA and Illinois SIP that are applicable to its facility.

26. Until June 15, 2013, General Iron shall operate its shredder in accordance with its IEPA permit, applicable regulations and, except as provided in Paragraph 31, when existing pollution control equipment is in operation. As of the effective date of this Order, existing pollution control equipment includes a customized shredder enclosure and water suppression system.

27. No later than June 15, 2013, General Iron shall complete installation of the capture hood, cyclone and Pedcon UHF High-Efficiency Roll Filter System (Filter System), or equivalent filter system. Thereafter, except as provided in Paragraph 31, General Iron shall operate the capture hood, cyclone and Filter System whenever its shredder is in operation in order to ensure compliance with particulate matter and opacity standards. General Iron shall continue to operate its shredder in accordance with all applicable regulations and the terms of its IEPA permit or, if it has secured a modified permit pursuant to Paragraph 36 of this Order, the revised IEPA permit.

28. The capture hood shall operate within the fan speed range recommended by the manufacturer and its ductwork and components shall be maintained in good operating condition in order to achieve compliance with particulate matter and opacity standards.

29. General Iron shall notify EPA within 30 days after completion of the installation of the capture hood, cyclone and Filter System.

30. General Iron shall submit to EPA an Operation and Maintenance Plan for its customized shredder enclosure, water suppression system, capture hood, cyclone and Filter System no later than 90 days after the date installation of the cyclone and Filter System was completed.

31. If there is a pollution control system malfunction, General Iron may continue to operate the shredder only if it is operating in compliance with all emission limits and applicable regulations. If emission limits and regulations are exceeded, the shredder shall cease operation until compliance is achieved.

32. After installation of the capture hood, cyclone and Filter System is complete, General Iron shall perform visible emission observations for at least thirty (30) minutes once per

month for twelve (12) months with a certified reader in accordance with EPA Method 9, 40 C.F.R. Part 60, Appendix A on its shredder while the shredder is operating at a process rate as high as practicable, but no less than 315 tons per hour (TPH). The results, including the estimated process rate at the time of the observations, will be submitted to EPA in each Calendar Quarterly Report required under Paragraph 35 below.

33. After installation of the capture hood, cyclone and Filter System is complete, General Iron shall observe, looking generally toward the zenith at a point beyond the property line of the facility, fugitive particulate matter for at least thirty (30) minutes once per month for twelve (12) months while the shredder is operating at a process rate as high as practicable, but no less than 315 TPH. Each observation will include taking a photograph every six minutes, totaling five (5) photographs in the 30-minute period. A report of each observation, including all photos and the estimated process rate at the time of the observations, will be submitted to EPA in each Calendar Quarterly Report required under Paragraph 35 below.

34. General Iron will also perform 30 minute observations and take photographs as set forth in Paragraph 33 any time the shredder is operated during the malfunction of any pollution control system as set forth in Paragraph 31. If the malfunction lasts more than one day, General Iron shall perform 30-minute observations each day the malfunction lasts. A report of each observation, including all photos, will be submitted to EPA in each Calendar Quarterly Report required under Paragraph 35 below.

35. No later than 30 days after the end of each calendar quarter throughout the duration of this Order, General Iron shall submit to EPA a Calendar Quarterly Report on the performance of its pollution control system, report any exceedance of emission limits and regulations that occurred, submit a list of and description of all air emission complaints it

received that can reasonably be attributed to General Iron, the results of each emissions observation required under Paragraphs 32, 33 and 34, and an update of all permit activity required by Paragraph 36 this Order.

36. Within ninety (90) days of the effective date of this Order, General Iron shall submit a permit modification request to IEPA so that its operating permit includes the proposed pollution control equipment and operating conditions, as described in this Order, and shall contemporaneously submit a copy of the request to EPA. The request shall include pollution control equipment specifications, including, but not limited to: dimensions, design capacity, flow, etc., as applicable, of General Iron's water suppression system, capture hood, cyclone and Filter System.

37. General Iron must send all reports required by this Order to:

Attn: Compliance Tracker, AE-17J
Air Enforcement and Compliance Assurance Branch
EPA, Region 5
77 W. Jackson Boulevard
Chicago, Illinois 60604

General Provisions

38. This Order does not affect General Iron's responsibility to comply with other local, state and federal laws and regulations.

39. This Order does not restrict EPA's authority to enforce the Illinois SIP or any other section of the Act.

40. Nothing in this Order limits EPA's authority to seek appropriate relief, including penalties under Section 113 of the Act, 42 U.S.C. § 7413, for General Iron's alleged violation of the Illinois SIP.

41. Failure to comply with this Order may subject General Iron to penalties of up to $37,500 per day for each violation under Section 113 of the Act, 42 U.S.C. § 7413, and 40 C.F.R. Part 19.

42. The terms of this Order are binding on General Iron, its assignees and successors. General Iron must give notice of this Order to any successors in interest, prior to transferring ownership and must simultaneously verify to EPA, at the above address, that General Iron has given the notice.

43. General Iron may assert a claim of business confidentiality under 40 C.F.R. Part 2, Subpart B, for any portion of the information it submits to EPA. Information subject to a business confidentiality claim is available to the public only to the extent allowed by 40 C.F.R. Part 2, Subpart B. If General Iron fails to assert a business confidentiality claim, EPA may make all submitted information available, without further notice, to any member of the public who requests it. Emission data provided under Section 114 of the CAA, 42 U.S.C. § 7414, is not entitled to confidential treatment under 40 C.F.R. Part 2, Subpart B. "Emission data" is defined at 40 C.F.R. § 2.301.

44. This Order is not subject to the Paperwork Reduction Act, 44 U.S.C. § 3501 et. seq., because it seeks collection of information by an agency from specific individuals or entities as part of an administrative action or investigation. To aid in our electronic recordkeeping efforts, please provide your response to this Order without staples. Paper clips and binder clips are acceptable.

45. EPA may use any information submitted under this Order in an administrative, civil or criminal action.

46. General Iron agrees to the terms of this Order.

47. Each party agrees to bear its own costs and attorneys fees in this action.

48. This Order is effective on the date of signature by the Director of the Air and Radiation Division. This Order will terminate two years from the effective date, provided that General Iron has complied with all terms of the Order throughout its duration.

In the matter of:
General Iron Industries, Inc.
Administrative Consent Order
EPA-5-12-113(a)-IL-04

6/28/12
Date

Jim Kallas
Environmental Manager
General Iron Industries, Inc.

6/29/12
Date

George T. Czerniak
Acting Director
Air and Radiation Division
U.S. Environmental Protection Agency, Region 5

CERTIFICATE OF MAILING

I, Loretta Shaffer, certify that I sent the Administrative Order, EPA Order No. EPA-5-12-113(a)-IL-04, by Certified Mail, Return Receipt Requested, to:

Jim Kallas
Environmental Manager
General Iron Industries, Inc.
1909 N. Clifton Avenue
Chicago, Illinois 60614

I also certify that I sent a copy of the Administrative Order, EPA Order No. EPA-5-12-113(a)-IL-04, by First-Class Mail to:

Ray Pilapil, Chief
Bureau of Air
Compliance and Enforcement Section
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Springfield, Illinois 62702

On the 29 day of June 2012.

Loretta Shaffer
Loretta Shaffer
Administrative Program Assistant

CERTIFIED MAIL RECEIPT NUMBER: 7009 1680 0000 7672 9642

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

AUG 2 2 2019

REPLY TO THE ATTENTION OF

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Adam Labkon
General Iron Industries, Inc.
1909 N. Clifton Ave.
Chicago, Illinois 60614

Re: Administrative Consent Order EPA-5-19-113(a)-IL-08

Dear Mr. Labkon:

Enclosed is an executed original of the Administrative Consent Order regarding the above captioned case. If you have any questions about the Order, please contact me at (312) 886-3850.

Sincerely,

Nathan A. Frank, Chief
Air Enforcement and Compliance Assurance Section (IL/IN)

Enclosure

cc: Susan Tennenbaum/C-14J

Kent Mohr, Illinois Environmental Protection Agency

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

In the Matter of:	)	**EPA-5-19-113(a)-IL-08**
	)	
General Iron Industries, Inc.	)	**Proceeding Under Sections 113(a)(1) and**
Chicago, Illinois	)	**114(a)(1) of the Clean Air Act, 42 U.S.C.**
	)	**§§ 7413(a)(1) and 7414(a)(1)**
	)	

Administrative Consent Order

1. The Director of the Enforcement and Compliance Assurance Division, U.S. Environmental Protection Agency (EPA), Region 5, is issuing this Order to General Iron Industries, Inc. (General Iron) under Sections 113(a)(1) and 114(a)(1) of the Clean Air Act (CAA), 42 U.S.C. §§ 7413(a)(1) and 7414(a)(1).

Statutory and Regulatory Background

2. The Administrator of EPA may require any person who owns or operates an emission source who is subject to any requirement of the CAA to provide information required by the Administrator under Section 114(a)(1) of the CAA, 42 U.S.C. § 7414(a)(1). The Administrator has delegated this authority to the Director of the Enforcement and Compliance Assurance Division.

3. Title V of the CAA, 42 U.S.C. §§ 7661a-7661f, establishes an operating permit program for certain sources, including "major sources" and "major stationary sources."

4. Section 502(a) of the CAA, 42 U.S.C. § 7661a(a), and 40 C.F.R. § 70.7(b) provide that, after the effective date of any permit program approved or promulgated under Title V of the CAA, no source subject to Title V may operate except in compliance with a Title V permit.

5. 40 C.F.R. § 70.1(b) provides that all sources subject to the Part 70 regulations shall have a permit to operate that assures compliance by the source with all applicable requirements, as defined in 40 C.F.R. § 70.2

6. Section 503(c) of the CAA, 42 U.S.C. § 7661b(c), and 40 C.F.R. § 70.5(a) provide that any person required to have a permit under Title V must timely submit a complete application for a permit.

7. 40 C.F.R. § 70.5(a)(2) requires that, among other things, that a complete application include all emissions of regulated air pollutants and air pollutant emission rates.

8. U.S. EPA granted full approval to the Illinois Title V operating permit program (CAAPP) on December 4, 2001, set forth at 415 Illinois Compiled Statutes (ILCS) Section 5/39.5. The program became effective on November 30, 2001. 66 Fed. Reg. 62946.

9. Section 39.5(6)(b) of the Illinois Environmental Protection Act states that no person shall operate a CAAPP source without a CAAPP permit unless a CAAPP permit or renewal application has been timely submitted. 415 ILCS § 5/39.5(6)(b).

10. Sections 39.5(1.1)(a) and (b) of the Illinois Environmental Protection Act states that an owner or operator of a source may seek exclusion from the CAAPP prior to the date the CAAPP application for the source is due by submitting a permit application, consistent with the State permit program, requesting exclusion through the imposition of federally enforceable conditions limiting the potential to emit to below major source thresholds.

11. Section 502 of the CAA, 42 U.S.C. § 7661a, applies to all major stationary sources, defined at Section 501 of the CAA, 42 U.S.C. § 7602.

12. Section 39.5 of the Illinois Environmental Protection Act applies to any source defined as a major source or major stationary source. 415 ILCS § 5/39.5(2)(a)(ii).

13. The definition of "major stationary source" includes any stationary source located in a "marginal" or "moderate" ozone non-attainment area that emits or has the potential to emit 100 tons per year or more of volatile organic compounds. 415 ILCS § 5/39.5(2)(c)(iii).

14. Each state must submit to the Administrator of EPA a plan for attaining and maintaining the National Ambient Air Quality Standards under Section 110 of the CAA, 42 U.S.C. § 7410.

15. The Administrator of the EPA approved Illinois' plan for the attainment and maintenance of the NAAQS under Section 110 of the CAA (Illinois SIP). *See* 40 C.F.R. § 52.722 and 55 Fed. Reg. 40661 (October 4, 1990).

16. On September 9, 1994, EPA approved Part 211 of the IAC as part of the federally enforceable Illinois SIP. 59 Fed. Reg. 46567.

17. 35 IAC § 211.3690 defines "maximum theoretical emissions" as the quantity of volatile organic material emissions that theoretically could be emitted by a stationary source before add-on controls based on the design capacity or maximum production capacity of the source and 8760 hours per year.

18. 35 IAC § 211.4970 defines "potential to emit" as the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restriction 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 is federally enforceable. *See also* 40 C.F.R. § 70.2; 415 ILCS § 5/39.5(1).

19. On March 12, 1997, EPA approved 35 IAC § 218.980, as part of the federally enforceable SIP. 62 Fed. Reg. 11327.

20. 35 IAC § 218.980(a)(1) states that a source is subject to 35 IAC Part 218, Subpart TT, if it contains process emission units not regulated by the Subparts identified in 35 IAC § 218.980(a)(1) which as a group have a maximum theoretical emissions of 100 tons or more per calendar year of volatile organic matter (VOM) and are not limited to less than 100 ton of VOM emissions per calendar year in the absence of air pollution control equipment through production or capacity limitations contained in a federally enforceable permit or SIP revision.

21. 35 IAC § 218.980(b)(1) states, in pertinent part, that a source is subject to 35 IAC Part 218, Subpart TT, if it has the potential to emit 25 tons or more of VOM per year, in aggregate, from emission units, that are not regulated by the Subparts identified in 35 IAC § 218.980(b)(1)(A) and not included in the categories listed in 35 IAC § 218.980(b)(1)(B).

22. On October 21, 1996, EPA approved 35 IAC §§ 218.986 and 218.987 as part of the federally enforceable SIP. 61 Fed. Reg. 54556.

23. 35 IAC § 218.986 states that every owner or operator of an emission unit subject to 35 IAC Part 218, Subpart TT shall comply with 35 IAC § 218.986(a).

24. 35 IAC § 218.986(a) requires every owner or operator to operate emission capture and control equipment which achieves an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit.

25. 35 IAC §§ 218.987 and 218.106(c) require every owner or operator of an emission unit which is subject to 35 IAC Part 218, Subpart TT to comply with the requirements of 35 IAC Part 218, Subpart TT, by March 15, 1995 or upon startup.

26. Under Section 113(a)(1) and (a)(3) of the CAA, 42 U.S.C. § 7413 (a)(1) and (a)(3), the Administrator of EPA may issue an order requiring compliance to any person who has violated or is violating a SIP and Title V of the CAA. The Administrator has delegated this authority to the Director of the Enforcement and Compliance Assurance Division.

Findings

27. General Iron owns and operates a metal shredding and recycling facility at 1909 North Clifton Ave, Chicago, Illinois (Facility), which is located in Cook County.

28. General Iron receives, processes, and recycles ferrous and non-ferrous scrap metals from cars and post-consumer scrap metal at the Facility.

29. Scrap metal is shredded in a hammermill shredder at the Facility that is equipped with a "Pedcon UHF High-Efficiency Roll Filter System" consisting of a capture hood, cyclone and roll-media filter system.

30. On or about June 13, 2017, May 24 and 25, 2018 and June 13, 2018, EPA conducted onsite inspections at the Facility, including inspections during emissions testing conducted by the Facility.

31. On or about November 11, 2017, EPA issued an Information Request pursuant to Section 114 of the CAA (2017 Information Request) to General Iron regarding the Facility. The 2017 Information Request, among other things, required General Iron to conduct emission testing of the hammermill shredder at the Facility and to provide the results of the emission testing to EPA. The required emissions testing included VOM, particulate matter (PM) and metals emissions rates.

32. On December 13, 2017 and May 21, 2018, General Iron met with EPA to discuss the 2017 Information Request.

33. General Iron conducted testing as required by the 2017 Information Request on May 24, 2018, and May 25, 2018, including testing for VOM, PM, and metals emissions, and on June 13, 2018 and June 14, 2018, including testing for PM and metals emissions.

34. On or about January 12, 2018 and June 25, 2018, General Iron submitted to EPA responses to the 2017 Information Request, including the results of emissions testing for VOM conducted on May 25, 2018 and emissions testing for PM and metals conducted on June 13 and 14, 2018, and an impact assessment for metals emissions.

35. On July 18, 2018, EPA issued General Iron a Notice and Finding of Violation (NOV/FOV) for violations of the Clean Air Act and the Illinois SIP.

36. General Iron provided to EPA the results of the emissions testing for PM and metals conducted on May 24, 2018 in submittals on July 23, 2018 and August 21, 2018.

37. General Iron submitted a written response to the NOV/FOV on August 23, 2018.

38. General Iron met with EPA to discuss the NOV/FOV on July 24, 2018 and September 14, 2018.

39. Based on the results of the emissions testing, the Facility is below the permitted hammermill shredder emission limits for PM and the Facility emits or has the potential to emit more than 100 tons per calendar year of volatile organic compounds.

40. General Iron is a "major stationary source" as defined at 42 U.S.C. § 7661(2) and 415 ILCS § 5/39.5(2)(c)(i).

41. By operating as a major source, General Iron is subject to the requirements of the CAA's Title V, 42 U.S.C. §§ 7661a-7661f, at the Facility.

42. Based on the December 12, 2017 response and the results of the emissions testing, the hammermill shredder at the Facility has maximum theoretical emissions rate of more than 100 tons per calendar year of VOM.

43. Based on the December 12, 2017 response and the results of the emissions testing, the hammermill shredder emits 25 tons or more of VOM per year.

44. To date, General Iron does not comply with the VOM control requirements of 35 IAC Part 218, Subpart TT, nor does it have in place a federally enforceable alternative control plan that qualifies for an exemption from these requirements.

45. By operating as a major stationary source without a Title V permit, General Iron has violated Section 502 of the CAA, the regulations at 40 C.F.R. §§ 70.1(b) and 70.7(b), and the Illinois Environmental Protection Act at 415 ILCS § 5/39.5(6)(b).

46. On July 16, 2019, General Iron completed installation of a regenerative thermal oxidizer (RTO) at the Facility.

Compliance Program

47. The RTO shall be appropriately designed, operated and maintained in a manner that ensures the minimum destruction efficiency of the RTO for VOM from the hammermill shredder is 98%.

48. Within 90 days of the effective date of this Order, General Iron must conduct a performance test to demonstrate the VOM destruction efficiency of the RTO.

49. At least 30 days prior to the date of the performance test, General Iron must submit to EPA for review and approval a proposed testing protocol describing the methods and procedures to be conducted during the test. General Iron shall conduct performance testing using, at a

minimum, EPA Methods 1 or 1A, 2 or 2A, 2B or 2C, 3, 4, and 25A, to demonstrate that the RTO achieves the required VOM destruction efficiency.

50. General Iron shall use the RTO operating data from a successful performance test to establish a set point temperature for the RTO that achieves the demonstrated VOM destruction efficiency of the RTO.

51. Within 60 days of the completion of the performance testing conducted according to the approved testing protocol, General Iron shall submit to EPA the results of the performance testing including:

    a. A summary of the results including inlet and outlet organic material concentrations, destruction efficiency of the RTO, visual observations of capture efficiency and RTO operating temperatures.

    b. A description of the facility operations at the time of the test, including operating parameters;

    c. A description of the sampling and analytical procedures; and

    d. All copies of data and measurements obtained during the testing.

52. Within 90 days of the completion of the performance testing, General Iron must submit a permit application to the Illinois EPA to incorporate the following conditions into a federally enforceable state operating permit (FESOP):

    a. Control Device: operate an RTO to control emissions from the hammermill shredder at the Facility;

    b. Operation requirements:

        i. Minimum combustion temperature must be maintained in the RTO, as determined by the performance test; and

ii. Minimum air flow or fan power must be maintained, as determined by the performance test;

c. Control equipment requirements: 98 percent or greater VOM destruction efficiency, by weight, of the RTO;

d. Emission limits: Annual VOM emission limits and RTO destruction efficiency requirements;

e. Monitoring requirements:

i. Continuous monitoring of temperature; and

ii. Continuous monitoring of air flow or fan power;

f. Recordkeeping requirements:

i. A log of the operating times for the shredder;

ii. A log of temperature and air flow or fan power operating records from continuous monitoring; and

iii. A log of any deviations from the operational limits for combustion temperature in the RTO.

53. General Iron must submit a copy of the FESOP permit application to EPA within 7 days of submitting the application to Illinois EPA.

54. General Iron must send all responses, deliverables, submittals or reports required by this Order to connolly.scott@epa.gov, and r5airenforcement@epa.gov. If electronic responses are not possible, send all documents to:

Attention: Compliance Tracker (AE-18J)
Air Enforcement and Compliance Assurance Branch
U.S. Environmental Protection Agency, Region 5
77 W. Jackson Boulevard
Chicago, Illinois 60604

General Provisions

55. This Order does not affect General Iron's responsibility to comply with other federal, state, and local laws.

56. This Order does not restrict EPA's authority to enforce the CAA and its implementing regulations.

57. Failure to comply with this Order may subject General Iron to penalties up to $99,681 per day for each violation under Section 113 of the CAA, 42 U.S.C. § 7413, and 40 C.F.R. Part 19.

58. The terms of this Order are binding on General Iron, its assignees and successors. General Iron must give notice of this Order to any successors in interest prior to transferring ownership and must simultaneously verify to EPA, at the above address, that it has given the notice.

59. General Iron may assert a claim of business confidentiality under 40 C.F.R. Part 2, Subpart B, for any portion of the information it submits to EPA. Information subject to a business confidentiality claim is available to the public only to the extent allowed by 40 C.F.R. Part 2, Subpart B. If General Iron fails to assert a business confidentiality claim, EPA may make all submitted information available, without further notice, to any member of the public who requests it. Emission data provided under Section 114 of the CAA, 42 U.S.C. § 7414, is not entitled to confidential treatment under 40 C.F.R. Part 2, Subpart B. "Emission data" is defined at 40 C.F.R. § 2.301.

60. This Order is not subject to the Paperwork Reduction Act, 44 U.S.C. § 3501 *et seq.*, because it seeks collection of information by an agency from specific individuals or entities as part of an administrative action or investigation. To aid in our electronic recordkeeping efforts,

please furnish an electronic copy on physical media such as compact disk, flash drive or other similar item. If it is not possible to submit the information electronically, submit the response to this Order without staples; paper clips and binder clips, however, are acceptable.

61. EPA may use any information submitted under this Order in an administrative, civil judicial, or criminal action.

62. General Iron agrees to the terms of this Order. General Iron waives any remedies, claims for relief, and otherwise available rights to judicial or administrative review that it may have with respect to any issue of fact or law set forth in this Order, including any right of judicial review under Section 307(b) of the CAA, 42 U.S.C. § 7607(b).

63. This Order is effective on the date of signature by the Director of the Enforcement and Compliance Assurance Division. This Order will terminate on the earlier of either two years from the effective date of the Order, provided that General Iron certifies that it has complied with all terms of the Order, or at the time General Iron certifies that it has complied with all terms of the Order and that it is no longer operating at the Facility.

General Iron Industries, Inc.

8/20/19
Date

Adam Labkon
Vice President
General Iron Industries, Inc.

United States Environmental Protection Agency

8/22/2019
Date

Michael D. Harris
Michael D. Harris
Acting Director
Enforcement and Compliance Assurance Division
U.S. Environmental Protection Agency, Region 5

CERTIFICATE OF MAILING

I certify that I sent the Administrative Consent Order, EPA-5-19-113(a)-IL-08, by certified mail, return receipt requested, to:

Adam Labkon
General Iron Industries, Inc.
1909 N. Clifton Ave.
Chicago, Illinois 60614

I also certify that I sent a copy of the Administrative Consent Order, EPA-5-19-113(a)-IL-08, by E- mail to:

Kent Mohr, Manager
Compliance Section
Bureau of Air
Illinois Environmental Protection Agency
Kent.Mohr@Illinois.gov

On the 22nd day of August 2019

Kathy Jones
Program Technician
AECAB, PAS

CERTIFIED MAIL RECEIPT NUMBER: 7019 0140 0000 0722 3680

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

APR 20 2018

REPLY TO THE ATTENTION OF:

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Austin Zenere
Chicago Rail and Port, LLC
3245 East 103rd Street
Chicago, Illinois 60617

Re: Notice of Violation
Chicago Rail and Port, LLC

Dear Mr. Zenere:

The U.S. Environmental Protection Agency is issuing the enclosed Notice of Violation (NOV) to Chicago Rail and Port, LLC (you) under Section 113(a)(1) of the Clean Air Act, 42 U.S.C. § 7413(a)(1). EPA finds that you are violating the Illinois State Implementation Plan at your Chicago, Illinois facility.

Section 113 of the Clean Air Act gives us several enforcement options. These options include issuing an administrative compliance order, issuing an administrative penalty order and bringing a judicial civil or criminal action.

We are offering you an opportunity to confer with us about the violations alleged in the NOV. The conference will give you an opportunity to present information on the specific findings of violation, any efforts you have taken to comply and the steps you will take to prevent future violations. In addition, in order to make the conference more productive, we encourage you to submit to us information responsive to the NOV prior to the conference date.

Please plan for your facility's technical and management personnel to attend the conference to discuss compliance measures and commitments. You may have an attorney represent you at this conference.

The EPA contact in this matter is Molly Smith, (312) 353-8773, or Patrick Miller, (312) 886-4044. You may call at either to request a conference. You should make the request within 10 calendar days following receipt of this letter. We should hold any conference within 30 calendar days following receipt of this letter.

Sincerely,

Edward Nam
Director
Air and Radiation Division

Enclosure

cc: Julie Armitage, Chief, Bureau of Air, Illinois Environmental Protection Agency, Julie.Armitage@Illinois.gov

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF:	)	
	)	
Chicago Rail and Port, LLC	)	**NOTICE OF VIOLATION**
Chicago, Illinois	)	
	)	**EPA-5-18-IL-10**
Proceedings Pursuant to	)	
Section 113(a)(1) of the	)	
Clean Air Act, 42 U.S.C.	)	
§ 7413(a)(1)	)	

NOTICE OF VIOLATION

The U.S. Environmental Protection Agency is issuing this Notice of Violation under Section 113(a)(1) of the Clean Air Act (CAA), 42 U.S.C. § 7413(a)(1). EPA finds that Chicago Rail and Port, LLC (CRP) is violating the Illinois State Implementation Plan (SIP), as follows:

Statutory and Regulatory Background

1. Pursuant to Sections 108 and 109 of the CAA, 42 U.S.C. §§ 7408 and 7409, EPA reaffirmed the National Ambient Air Quality Standards (NAAQS) for particulate matter equal to or less than 10 microns in diameter (PM_{10}) on October 17, 2006. 71 *Fed. Reg.* 61224 (2006).

2. The revised national primary and secondary ambient air quality standard for PM_{10} is 150 micrograms per cubic meter ($\mu g/m^3$), 24-hour average concentration.

3. Appendix K to 40 C.F.R. Part 50 explains the computations necessary for analyzing particulate matter data to determine attainment of the 24-hour standards specified in 40 C.F.R. § 50.6.

Illinois SIP

4. On May 31, 1972, EPA approved Illinois Pollution Control Board (IPCB) Rules 101 and 102 as part of the federally enforceable SIP for the State of Illinois. 37 *Fed. Reg.* 10842. IPCB Rule 101 has been recodified at 35 Illinois Administrative Code (Ill. Admin. Code) § 201.102. IPCB Rule 102 has been recodified at 35 Ill. Admin. Code § 201.141.

5. On February 21, 1980, EPA approved the IPCB Rule 203(f)(1) as part of the federally enforceable SIP for the State of Illinois. 45 *Fed. Reg.* 11493 (February 21, 1980). IPCB Rule 203(f)(1) has been recodified at 35. Ill. Admin. Code § 212.301.

6. The Illinois SIP at 35 Ill. Admin. Code § 201.141 provides, in pertinent part, that no person shall cause or threaten or allow the discharge or emission of any contaminant into the environment in any State so as, either alone or in combination with contaminants from

other sources, to cause or tend to cause air pollution in Illinois or so as to prevent the attainment or maintenance of any applicable ambient air quality standard.

7. The Illinois SIP at 35 Ill. Admin. Code § 201.102 defines "Ambient Air Quality Standard" as those standards promulgated from time to time by the IPCB pursuant to authority contained in the Illinois Environmental Protection Act and found at 35 Ill. Adm. Code § 243, or by the EPA pursuant to authority contained in 42 U.S.C. § 7401 et seq. as amended.

8. The Illinois SIP at 35 Ill. Admin. Code § 201.102 defines "Air Pollution" as the presence in the atmosphere of one or more air contaminants in sufficient quantities, characteristics and duration so as to be injurious to human, plant, or animal life, to health, or to property, or to unreasonably interfere with the enjoyment of life or property.

9. The Illinois SIP at 35 Ill. Admin. Code § 243.120 incorporated the 24-hour NAAQS for PM_{10} as 150 $\mu g/m^3$, 24-hour average concentration. The primary and secondary NAAQS for PM_{10} are attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one.

10. The Illinois SIP at 35 Ill. Admin. Code § 243.102 defines "PM_{10}" as particulate matter that has an aerodynamic diameter less than or equal to a nominal 10 micrometers (μm).

11. The Illinois SIP at 35 Ill. Admin. Code § 243.120 incorporates by reference Appendix K to 40 C.F.R. Part 50 (2013) (Interpretation of the Primary and Secondary National Ambient Air Quality Standards for Particulate Matter).

Factual Background

12. CRP owns and operates a bulk solid storage and handling facility 3245 East 103rd Street, Chicago, Illinois. The facility operates storage piles, roadways, material handling operations, and loading and unloading operations that emit particulate matter, including PM_{10}.

13. On March 1, 2017, S.H. Bell Company, Chicago, Illinois (S.H. Bell), began operating a meteorological station and a PM_{10} ambient air monitoring network at 10218 South Avenue O, Chicago, Illinois (Monitoring Network). The Monitoring Network includes four continuous Federal Equivalence Method (FEM) PM_{10} monitors and one filter-based Federal Reference Method (FRM) monitor. The monitors are located at the following locations:

    a. FEM, S1, 41.708239, -87.544058;
    b. FEM, S2, 41.710553, -87.539204;
    c. FEM, S3, 41.710552, -87.542043;
    d. FEM and FRM, S4, 41.711541, -87.539607; and
    e. Meteorological station, 41.709841, -873540376.

14. On January 16, 2018, S.H. Bell submitted meteorological data and Monitoring Network data for the month of December 2017 from the four FEM monitors. The data submissions included the southernmost monitor, S1.

15. The December 2017 Monitoring Network data showed that on December 4, 2017, the 24-hour PM_{10} average concentration was 179 $\mu g/m^3$ at monitor S1.

16. The December 4, 2017, Monitoring Network meteorological data shows the wind was from the south and averaged over 15 miles per hour (mph).

17. EPA inspected the CRP facility on February 1, 2018, and confirmed bulk solid limestone storage piles in the northern portion of the CRP site, near S1 of the Monitoring Network.

18. During the February 1, 2018, inspection, CRP provided copies of the Reference Method 22 Daily Observation Checklist. The checklist for December 4, 2017, indicated 25 loads of limestone were shipped during wind gusts of 20 – 38 mph.

Violations

19. CRP caused the emission of PM_{10} into the air, so as, either alone or in combination with contaminants from other sources, to cause or tend to cause, air pollution in Illinois and/or to prevent the maintenance of the revised NAAQS for PM_{10} in violation of the Illinois SIP at 35 Ill. Admin. Code § 201.141

Environmental Impact of Violations

20. These violations have caused or can cause excess emissions of particulate matter: Particulate matter, especially fine particulates contains microscopic solids or liquid droplets, which can get deep into the lungs and cause serious health problems. Particulate matter exposure contributes to:
    - irritation of the airways, coughing, and difficulty breathing;
    - decreased lung function;
    - aggravated asthma;
    - chronic bronchitis;
    - irregular heartbeat;
    - nonfatal heart attacks; and
    - premature death in people with heart or lung disease.

4/20/18
Date

Edward Nam
Director
Air and Radiation Division

EPA United States Environmental Protection Agency

Office of Enforcement and Compliance Assurance
EPA-300-B-17-001 June 2017

U.S. EPA Small Business Resources Information Sheet

The United States Environmental Protection Agency provides an array of resources to help small businesses understand and comply with federal and state environmental laws. In addition to helping small businesses understand their environmental obligations and improve compliance, these resources will also help such businesses find cost-effective ways to comply through pollution prevention techniques and innovative technologies.

Office of Small and Disadvantaged Business Utilization (OSDBU)
www.epa.gov/aboutepa/about-office-small-and-disadvantaged-business-utilization-osdbu

EPA's OSBBU advocates and advances business, regulatory, and environmental compliance concerns of small and socio-economically disadvantaged businesses.

EPA's Asbestos Small Business Ombudsman (ASBO)
www.epa.gov/resources-small-businesses/asbestos-small-business-ombudsman or 1-800-368-5888

The EPA ASBO serves as a conduit for small businesses to access EPA and facilitates communications between the small business community and the Agency.

Small Business Environmental Assistance Program
https://nationalsbeap.org

This program provides a "one-stop shop" for small businesses and assistance providers seeking information on a wide range of environmental topics and state-specific environmental compliance assistance resources.

EPA's Compliance Assistance Homepage
www.epa.gov/compliance

This page is a gateway to industry and statute-specific environmental resources, from extensive web-based information to hotlines and compliance assistance specialists.

Compliance Assistance Centers
www.complianceassistance.net

EPA sponsored Compliance Assistance Centers provide information targeted to industries with many small businesses. They were developed in partnership with industry, universities and other federal and state agencies.

Agriculture
www.epa.gov/agriculture

Automotive Recycling
www.ecarcenter.org

Automotive Service and Repair
www.ccar-greenlink.org or 1-888-GRN-LINK

Chemical Manufacturing
www.chemalliance.org

Construction
www.cicacenter.org

Education
www.campuserc.org

Food Processing
www.fpeac.org

Healthcare
www.hercenter.org

Local Government
www.lgean.org

Surface Finishing
http://www.sterc.org

Paints and Coatings
www.paintcenter.org

Printing
www.pneac.org

Ports
www.portcompliance.org

Transportation
www.tercenter.org

U.S. Border Compliance and Import/Export Issues
www.bordercenter.org

EPA Hotlines and Clearinghouses
www.epa.gov/home/epa-hotlines

EPA sponsors many free hotlines and clearinghouses that provide convenient assistance regarding environmental requirements. Examples include:

Clean Air Technology Center (CATC) Info-line
www.epa.gov/catc or 1-919-541-0800

Superfund, TRI, EPCRA, RMP, and Oil Information Center
1-800-424-9346

EPA Imported Vehicles and Engines Public Helpline
www.epa.gov/otaq/imports or 1-734-214-4100

National Pesticide Information Center
www.npic.orst.edu or 1-800-858-7378

National Response Center Hotline to report oil and hazardous substance spills - http://nrc.uscg.mil or 1-800-424-8802

Pollution Prevention Information Clearinghouse (PPIC) - www.epa.gov/p2/pollution-prevention-resources#ppic or 1-202-566-0799

Safe Drinking Water Hotline - www.epa.gov/ground-water-and-drinking-water/safe-drinking-water-hotline or 1-800-426-4791

Toxic Substances Control Act (TSCA) Hotline
tsca-hotline@epa.gov or 1-202-554-1404

U.S. Small Business Resources

Small Entity Compliance Guides
https://www.epa.gov/reg-flex/small-entity-compliance-guides

EPA publishes a Small Entity Compliance Guide (SECG) for every rule for which the Agency has prepared a final regulatory flexibility analysis, in accordance with Section 604 of the Regulatory Flexibility Act (RFA).

Regional Small Business Liaisons
www.epa.gov/resources-small-businesses/epa-regional-office-small-business-liaisons

The U.S. Environmental Protection Agency (EPA) Regional Small Business Liaison (RSBL) is the primary regional contact and often the expert on small business assistance, advocacy, and outreach. The RSBL is the regional voice for the EPA Asbestos and Small Business Ombudsman (ASBO).

State Resource Locators
www.envcap.org/statetools

The Locators provide state-specific contacts, regulations and resources covering the major environmental laws.

State Small Business Environmental Assistance Programs (SBEAPs)
https://nationalsbeap.org/states/list

State SBEAPs help small businesses and assistance providers understand environmental requirements and sustainable business practices through workshops, trainings and site visits.

EPA's Tribal Portal
www.epa.gov/tribalportal

The Portal helps users locate tribal-related information within EPA and other federal agencies.

EPA Compliance Incentives
EPA provides incentives for environmental compliance. By participating in compliance assistance programs or voluntarily disclosing and promptly correcting violations before an enforcement action has been initiated, businesses may be eligible for penalty waivers or reductions. EPA has two such policies that may apply to small businesses:

EPA's Small Business Compliance Policy
www.epa.gov/enforcement/small-businesses-and-enforcement

EPA's Audit Policy
www.epa.gov/compliance/epas-audit-policy

Commenting on Federal Enforcement Actions and Compliance Activities

The Small Business Regulatory Enforcement Fairness Act (SBREFA) established a SBREFA Ombudsman and 10 Regional Fairness Boards to receive comments from small businesses about federal agency enforcement actions. If you believe that you fall within the Small Business Administration's definition of a small business (based on your North American Industry Classification System designation, number of employees or annual receipts, as defined at 13 C.F.R. 121.201; in most cases, this means a business with 500 or fewer employees), and wish to comment on federal enforcement and compliance activities, call the SBREFA Ombudsman's toll-free number at 1-888-REG-FAIR (1-888-734-3247).

Every small business that is the subject of an enforcement or compliance action is entitled to comment on the Agency's actions without fear of retaliation. EPA employees are prohibited from using enforcement or any other means of retaliation against any member of the regulated community in response to comments made under SBREFA.

Your Duty to Comply

If you receive compliance assistance or submit a comment to the SBREFA Ombudsman or Regional Fairness Boards, you still have the duty to comply with the law, including providing timely responses to EPA information requests, administrative or civil complaints, other enforcement actions or communications. The assistance information and comment processes do not give you any new rights or defenses in any enforcement action. These processes also do not affect EPA's obligation to protect public health or the environment under any of the environmental statutes it enforces, including the right to take emergency remedial or emergency response actions when appropriate. Those decisions will be based on the facts in each situation. The SBREFA Ombudsman and Fairness Boards do not participate in resolving EPA's enforcement actions. Also, remember that to preserve your rights, you need to comply with all rules governing the enforcement process.

EPA is disseminating this information to you without making a determination that your business or organization is a small business as defined by Section 222 of the Small Business Regulatory Enforcement Fairness Act or related provisions.

CERTIFICATE OF MAILING

I certify that I sent a Notice of Violation, No. EPA-5-18-IL-10 by Certified Mail, Return Receipt Requested, to:

Austin Zenere
Chicago Rail and Port, LLC
3245 East 103rd Street
Chicago, Illinois 60617

I also certify that I sent copies of the Notice of Violation to:

Julie Armitage
Chief
Bureau of Air
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Springfield, Illinois 62794
Julie.Armitage@Illinois.gov

Mort Ames
City of Chicago Law Department
Assistant Corporation Counsel Supervisor
30 N. La Salle Street, Suite 1400
Chicago, Illinois 60602
Mort.Ames@cityofchicago.org

Dave Graham
Chicago Department of Public Health
Assistant Commissioner
333 S. State Street, Room 200
Chicago, Illinois 60604
Dave.Graham@cityofchicago.org

On the 23rd day of APRIL 2018.

Kathy Jones

Kathy Jones
Program Technician
AECAB, PAS

CERTIFIED MAIL RECEIPT NUMBER: 7009 1680 0000 7641 3428

OPERATING PROGRAM FOR FUGITIVE PARTICULATE MATTER CONTROL

35 Illinois Administrative Code 212 Subpart K: Fugitive Particulate Matter

Chicago Rail & Port, LLC

TRINITY CONSULTANTS
1S660 Midwest Road
Suite 250
Oakbrook Terrace, IL 60181
(630) 495-1470

August 2017

Project 171401.0134

Trinity Consultants

Environmental solutions delivered uncommonly well

TABLE OF CONTENTS

1. INTRODUCTION

This document constitutes the Operating Program for Fugitive Particulate Matter Control for the Chicago Rail & Port, LLC (CRP) facility located in Chicago, Illinois (the Facility). Fugitive particulate matter (PM) is regulated under Title 35 of the Illinois Administrative Code (IAC) Subpart K. Pursuant to 35 IAC 212.309(a), fugitive emissions from storage piles, conveyor loading operations, screening operations, traffic areas, materials collected by pollution control equipment, and any units for which spraying or choke-feeding is required must be operated under the provisions of an operating program.

This document is organized such that it follows the regulatory requirements of 35 IAC 212.309, 35 IAC 212.310, and 35 IAC 212.312.

This Operating Program is designed to minimize the opportunity for fugitive PM emissions at the Facility. This Operating Program has been revised to reflect the fugitive PM emission sources in operation as of March 2017, and will be revised as appropriate to reflect any future changes in operations.

The following source information is provided pursuant to 35 IAC 212.310(a) through 35 IAC 212.310(c).

2.1.1. 35 IAC 212.310(a) - Name and Address of the Source

Chicago Rail & Port, LLC[1]
3245 E. 103rd Street
Chicago, Illinois 60617

2.1.2. 35 IAC 212.310(b) - Owner or Operator Responsible for Execution of the Operating Program

The CRP Site Manager (or their designee) are responsible for inspecting the facility on a daily basis when in operation, and for ensuring that all procedures outlined in this Operating Program are enacted.

2.1.3. 35 IAC 212.310(c)[2] - Map or Diagram of the Source

A scaled site map of the Facility showing the facility boundaries; buildings; internal roads; roadways within one quarter mile of the perimeter of the facility which are used to transport material to or from the facility; potential emission points (including a depiction of the footprints of all bulk solid material storage piles); and the locations of monitoring devices is provided in Appendix A to this Operating Program.

[1] The facility is authorized to operate under a Lifetime Operating Permit No.13090047 issued to the property owner, South Chicago Property Development, LLC.

[2] Pursuant to 35 IAC 212.301(c), the site map should include approximate locations of storage piles, conveyor loading operations, normal traffic pattern access areas surrounding storage piles, and all normal traffic patterns within the source. Additionally, pursuant to 35 IAC 212.301(d), the location of unloading and transporting operations with pollution control equipment should be identified.

3. FACILITY DESCRIPTION

CRP operates a bulk material storage and transport operation at the Facility. Various materials[3] are loaded and unloaded via barge, truck, and rail at the Facility. Materials may be received and shipped off-site without accumulation in storage piles. Occasionally, materials may be temporarily stored at the facility before being transported from the facility. Loading and unloading from barges is performed via clamshell. Loading and unloading from trucks and railcars is performed via front end loaders. Stone may be processed through a screening operation to separate into different size piles or to remove impurities.

[3] Materials include salt, fertilizers, iron ore products, mill scale, magnesium oxide, scrap products, synthetic gypsum, sand, bauxite, aggregates, and slag.

4. BEST MANAGEMENT PRACTICES FOR FUGITIVE DUST CONTROL

The following section of the Operating Program details the best management practices utilized to achieve compliance with 35 IAC Subpart 212. Additionally, the fugitive PM operating program includes a description of all control measures, devices, and technologies used to minimize and control fugitive dust emissions. The following control measures, devices, and technologies are in place at the Facility for the control of fugitive PM emissions.

4.1. STORAGE PILES

Emission Limit: 10% opacity (4 feet from pile) pursuant to 35 IAC 212.316(d)
Fugitive Dust Control: Dust suppression (i.e., water spray)
Applicable Regulations: 35 IAC 212.314, 35 IAC 212.316(d)

The Facility has outdoor storage piles of various materials. Dust suppression is used during loading into and unloading out of the storage piles and to minimize wind erosion. Dust suppression (i.e., water spray) is utilized based on visual observations as documented in the Daily Environmental Checklist (See Appendix B for an example checklist).[4] Dust suppression (i.e., water spray) is applied to the surfaces of the storage pile(s) using the 7,000 gallon on-site watering truck which sprays water from the rear of the truck in an approximate 10-15 foot spray pattern. Not all materials can be controlled by water spraying as it may degrade the product being stored.

4.2. TRUCK, RAILCAR, AND BARGE LOADING/UNLOADING AND TRANSFER POINTS

The material at the Facility is received via barge, truck, and rail unloaded to a stockpile near the unloading point. The material at the Facility is loaded into shipping trucks and rail cars via front end loaders. Material could also be loaded onto barges via clamshell. Dust suppression (i.e., water spray) is used, as needed, to control fugitive PM during loading and unloading to storage piles based on visual observations as documented in the Daily Environmental Checklist.[4]

The materials at the Facility may also be transferred into or out of storage piles via front end loaders and haul trucks. Dust suppression is used during the loading into and unloading out of storage piles. Dust suppression (i.e., water spray) is utilized based on visual observations as documented in the Daily Environmental Checklist (See Appendix B for an example checklist).[4] Not all materials may be controlled by water spray as it may degrade the product.

Material loading and unloading is conducted in a manner to ensure that material spillage or leakage onto internal roads or into waterways is minimized. This includes visual observations of material loading and unloading activities. Any spilled or leaked material is cleaned up as soon as possible after the spill occurs.

4.3. SCREENING OPERATION

Emission Limit: 10% opacity pursuant to 35 IAC 212.316(b)
Fugitive Dust Control: Dust suppression (i.e., water spray)
Applicable Regulations: 35 IAC 212.308, 35 IAC 212.314, 35 IAC 212.316(b)

[4] Dust suppression may not be used if there are no visible emissions observed as documented in the Daily Environmental Checklist.

As detailed above, screening operations are utilized to separate stone piles into different sizes or remove impurities. The screening operation is controlled by dust suppression (i.e., water spray) to control fugitive PM, unless temperatures are below freezing and/or wind speeds are in excess of 40.2 km/hr (25 mph). Visual observations of the screening operation are performed each day that it is in operation, and the results are documented in the Daily Environmental Checklist (See Appendix B for an example checklist).

4.4. TRAFFIC AREAS/ROADWAY CLEANING AND PAVING

Emission Limit: 10% opacity pursuant to 35 IAC 212.316(c)
Applicable Regulations: 35 IAC 212.306, 212.316(c)

To minimize emissions from vehicle traffic, the majority of vehicle travel within the plant occurs on paved surfaces. Signs are installed at the Facility to prohibit routine traffic and restrict non-routine traffic to those vehicles which have taken appropriate measures to minimize fugitive dust. In addition, paved roads are cleaned using a high pressure road washer at least once per day on days when material loading or unloading occurs, unless temperatures are below freezing or when there is adequate moisture to prevent visible emissions.[5] Adequate moisture is determined based on visual observations documented in the Daily Environmental Checklist (See Appendix B for an example checklist).

Unpaved areas are minimized[6] and treated with water. Dust suppression (i.e., water spray) is applied on all unpaved surfaces using a water truck which sprays water from the rear of the truck in an approximate 10-15 foot spray pattern at least once per day on days when material loading or unloading occurs, except when there is adequate moisture to prevent visible emissions or the temperatures are below freezing. Adequate moisture is determined based on visual observations as documented in the Daily Environmental Checklist. Chemical dust suppressants will be applied in addition to (or instead of) the water spray, as needed. Dust suppression is utilized, when needed, based on visual observations as documented in the Daily Environmental Checklist.

A site plan showing the truck routes within one quarter mile of the perimeter of the facility, which are used to transport material from the facility, are shown in Appendix A. Trucks enter and exit the Facility via 106th Street. All external roads within one quarter (¼) mile of the Facility which are used to transport material from the facility are paved and cleaned using a high pressure road washer, except as described above (i.e., same procedure for treatment as in plant paved roads).

Repairs to both the water truck and high pressure road washer will be made as soon as possible after the occurrence of malfunctions. If repair to the equipment is not completed within 24-hours, a third party water truck and/or high pressure road washer will be used, as appropriate.

4.5. MATERIAL TRANSPORT

Operational Requirement: Outgoing material transport trucks are cleaned, including ensuring the tractor, trailer or tire exterior surface are free of loose material and the removed material is collected, recycled or otherwise disposed of to minimize fugitive dust emissions.

[5] Freezing temperatures may make the application of dust suppressant a safety hazard. Therefore, the application of dust suppressant may be suspended when the day-time low temperature is 32°F or below and when the overnight low temperature is expected to be 32°F or below.

[6] Existing storage piles at the facility may prevent the paving of areas that are traversed by mobile vehicles in the area of the storage piles. Vehicle traffic in these areas will be minimized as much as possible so as to limit fugitive PM emissions. Unpaved areas at the Facility are primarily limited to these areas.

Fugitive Dust Control: Operate truck wash station with rumble strips

The posted speed limit at the Facility is five (5) mph, is enforced by plant personnel for all vehicle traffic onsite to help minimize fugitive PM emissions. Additionally, fugitive dust is minimized during transport using rumble strips and a truck wash station, as follows:

1. Rumble strips are installed in the front of the truck wash. All outgoing transport trucks exiting the facility will drive over the rumble strips as they exit the Facility, which will shake off any fugitive PM clinging to the outside of the truck. Fugitive material which is shaken off by the rumble strips will be collected (See Section 4.4 of this plan for additional details related to road cleaning activities).
2. After passing over the rumble strips, all trucks exiting the facility will be washed with water. Washing will focus on the tires and fenders of each truck. The truck wash station will be available during all operating hours, except when freezing temperatures make operation of the truck wash station a safety hazard. Therefore, operation of the truck wash station may be suspended when the day-time low temperature is 32°F or below and when the overnight low temperature is expected to be 32°F or below. The internal haul trucks which do not leave the facility are not required to pass through the truck wash and rumble strips. However, the truck wash is used as necessary to prevent fugitive PM emissions from leaving the boundaries of the site in violation of 35 IAC 212.301.

4.6. COVERING FOR VEHICLES

Operational Requirement: Trucks and trailers must be immediately covered before leaving the facility using a solid sliding cover or stackable cover on the top of the truck trailer that is kept completely closed except during loading OR a continuous tarp that completely covers the truck trailer and prevents wind from entering over the leading edge of the trailer rim into the interior of the trailer[7]
Fugitive Dust Control: Covering out-bound trucks
Applicable Regulations: 35 IAC 212.301 and 212.315

All trucks used to ship material offsite are covered prior to exiting the facility to minimize fugitive PM emissions during transport. Depending on the type of truck, either hatches or bed openings will be closed or tarped prior to exiting the Facility. The internal haul trucks which do not leave the facility are not required to cover their loads. However, a covering will be used if necessary to prevent fugitive PM emissions from leaving the boundaries of the site in violation of 35 IAC 212.301. Dust suppression (i.e., covering of internal haul trucks) is utilized, when needed, based on visual observations as documented in the Daily Environmental Checklist (See Appendix B for an example checklist).

[7] 35 IAC 212.315 specifically exempts PM emissions from automotive exhaust.

5. OPACITY MONITORING

The Facility documents compliance with the state opacity limits provided in Section 4 of this plan by performing visible emissions observations as detailed below. All daily USEPA Method 22 observations and any follow up actions, if applicable, will be recorded in the Daily Environmental Checklist. A sample of the Daily Environmental Checklist is provided in Appendix B.

- On a daily basis visual observations of each storage pile are performed using USEPA Method 22 on days when bulk material handling operations are being conducted. If visible emissions are observed during the USEPA Method 22 observation, a USEPA Method 9 observation is performed to determine the percent opacity as documented in the Daily Environmental Checklist. An example of the USEPA Method 9 observation documentation is provided in Appendix C.
- On at least a quarterly basis visual observations of each storage pile are performed using USEPA Method 9.
- On a daily basis visual observations of in plant roads are performed using USEPA Method 22 on days when material loading or unloading occurs. If visible emissions are observed during the USEPA Method 22 observation, a USEPA Method 9 observation is performed to determine the percent opacity as documented in the Daily Environmental Checklist.
- On at least a quarterly basis visual observations of in plant roads are performed using USEPA Method 9.
- Visual observations of the plant property line are performed using USEPA Method 22 on at least a weekly basis at a time when material loading or unloading is occurring. If visible emissions are observed during the USEPA Method 22 observation, mitigation efforts will be taken (i.e., dust suppression).

6. RECORDKEEPING AND REPORTING

A description of the Facility's recordkeeping system, as it relates to fugitive PM, is described in the following section pursuant to 35 IAC 212.316(g).

6.1. RECORDKEEPING

Written and/or electronic records are maintained at the site to document the application of control measures.

Pursuant to 35 IAC 212.316(g), the following records are maintained at the Facility:

- Name and address of the source and of the owner/operator of the source;
- A map or diagram showing all of the fugitive dust emission source and the location, identification, length and width of roadways;
- Documentation of each application of dust suppressants to roadways including:
  - A daily log listing stationary water sprays in use; and
  - A daily log listing the amount of water applied by mobile water spray equipment; and
- A daily log listing all instances in which a required control measure was not used and a statement of explanation.

6.2. RECORD RETENTION

Pursuant to 35 IAC 212.316(g)(4), the records identified in this Operating Program will be maintained at the site for at least three (3) years. These records will be available for inspection and copying by Agency representatives during normal working hours.

6.3. REPORTING

6.3.1. Annual Summary Report

Pursuant to 35 IAC 212.316(g)(1), a report summarizing the records for the application of fugitive PM control measures will be submitted to the Illinois Environmental Protection Agency (IEPA) for the calendar year January through December. This report will be submitted on or before March 31st of the following year.

6.3.2. Quarterly Report

Pursuant to 35 IAC 212.316(g)(5), a report will be submitted to the IEPA on or before the thirtieth (30th) calendar day after the end of a calendar quarter.[8] The report will include the following:

- The dates any necessary control measures were not implemented including:
  - A listing of those control measures,
  - The reasons that the control measures were not implemented; and
  - Any corrective actions taken.

The report will also include the dates when control measures would have been unreasonable given prevailing atmospheric conditions (i.e., wind exception, precipitation).

[8] Pursuant to 35 IAC 212.316(g)(5) the calendar quarters end on March 31, June 30, September 30, and December 31.

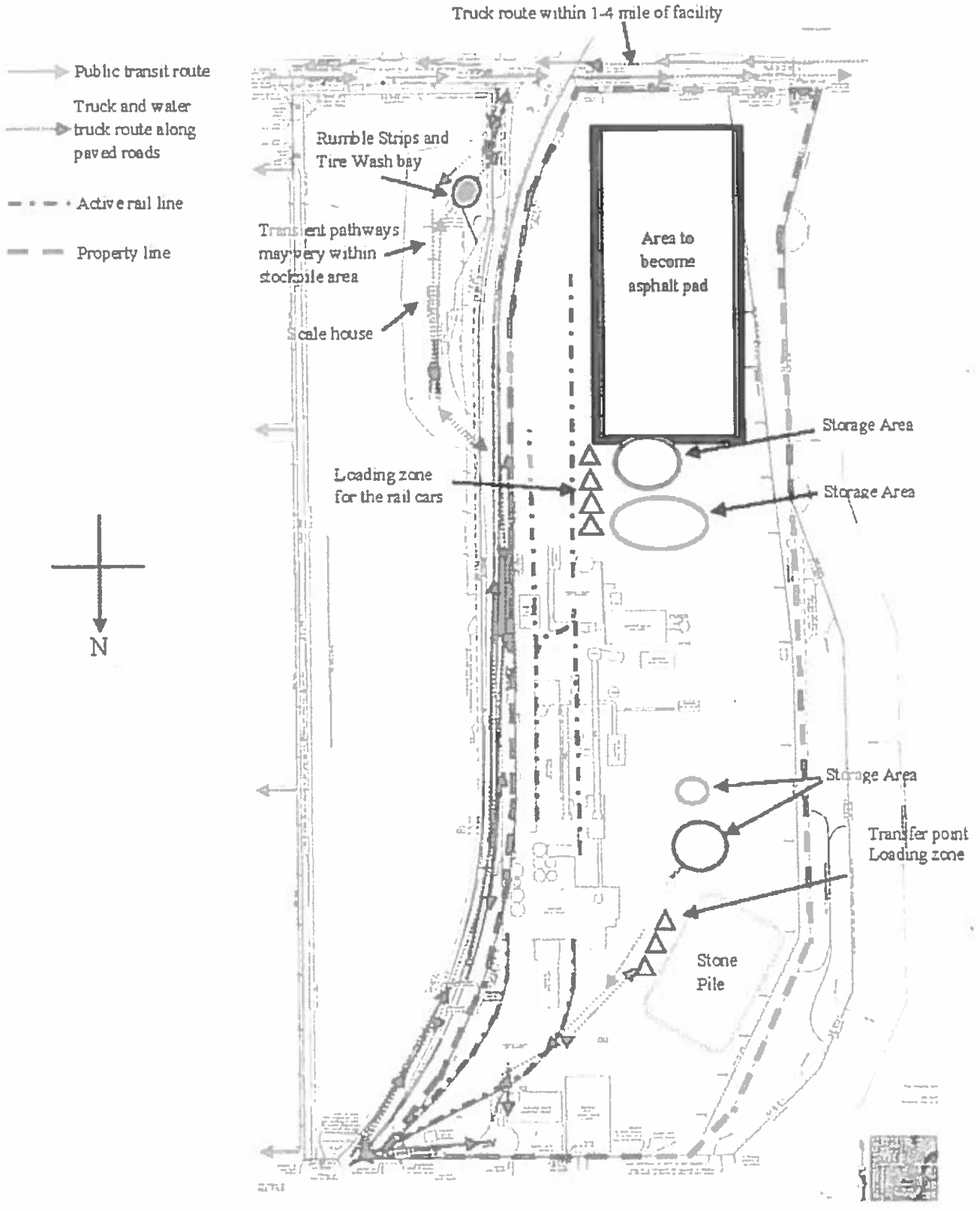
6.3.3. Report Submission Deadlines

If the deadline for submission of the annual report or any of the quarterly reports falls on a Saturday, Sunday or legal holiday, the report will be submitted prior to the deadline.

7. AMENDMENT TO OPERATING PROGRAM

In accordance with 35 IAC 212.312, all portions of this operating program related to the state fugitive dust rules contained in 35 IAC 212 will be updated as necessary to reflect changes in operations or procedures at the Facility.

APPENDIX A: SITE DIAGRAM


Truck route within 1-4 mile of facility
Public transit route
Truck and water truck route along paved roads
Active rail line
Property line
Rumble Strips and Tire Wash bay
Transient pathways may vary within stockpile area
Scale house
Area to become asphalt pad
Storage Area
Loading zone for the rail cars
Storage Area
Storage Area
Transfer point Loading zone
Stone Pile
N

APPENDIX B: EXAMPLE CHECKLIST: DAILY ENVIRONMENTAL CHECKLIST

DAILY ENVIRONMENTAL CHECKLIST - CHICAGO RAIL & PORT, LLC

DATE:	SHIFT	DAYS	HOURS	6:00 AM to	6:00 PM
COMPLETED BY		NIGHTS (if Utilized)		6:00 PM to	6:00 AM

WEATHER CONDITIONS	Avg Wind Speed	Direction	Precipitation	Temperature	Lowest temp over 35° last 3 days (winter only)
Beginning of Shift	mph		in.	deg.	
Middle of Shift	mph		in.	deg.	

HOUSEKEEPING (EXTERIOR) Area	Location	Material Accumulation (Yes/No)	Method 22 Emission (Yes/No) *If Yes, Method 9 Required	Action Taken	Notification No.
General	Truck/Rail Loading				
	Screening				
	Roadways				
	Other plant areas				
	Ship/Barge Loading/Unloading				
	Fenceline/Plant Boundary				

Remove spilled material and dust accumulations before the end of the shift.
Enter a maintenance notification for repairs.
Dust Suppression is required if visible emissions potentially could leave the property line or above the Emissions Limit of 10% opacity.
Stop emissions and notify Environmental Manager, Site Operations Manager and Production Superintendent if emissions have the potential to leave the property line

STORAGE PILE(S) - List by type/location	Active or Inactive	Method 22 Emission (Yes/No) *If Yes, Method 9 Required	Action Taken

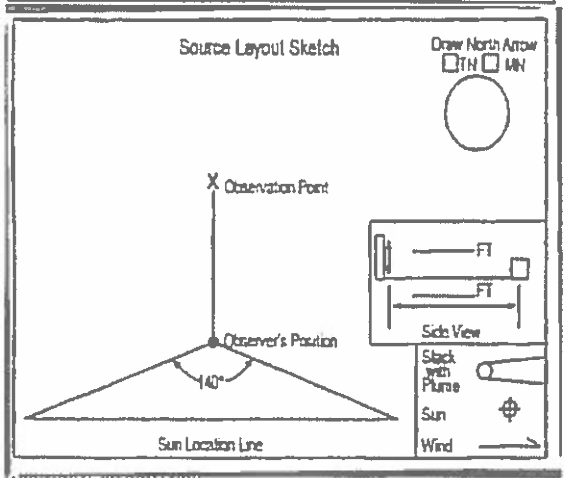
Emission limit is 10% opacity. If active pile, Method 22 for loading/unloading is required.
Stop emissions and notify Environmental Manager, Site Operations Manager and Production Superintendent if emissions have the potential to leave the property line

ROADS Watered	Watered	Reason not Watered	Action Taken	Notification No.
Days				
Nights (if Utilized)				

APPENDIX C: EXAMPLE CHECKLIST: USEPA METHOD 9

EPA METHOD 9 (40 CFR 60 - Appendix A)
VISIBLE EMISSION OBSERVATION FORM

COMPANY NAME		
LOCATION		
LOCATION		
CITY	STATE	ZIP
PROCESS EQUIPMENT		OPERATING MODE
CONTROL EQUIPMENT		OPERATING MODE
DESCRIBE EMISSION POINT		
HEIGHT OF EMISSION POINT	HEIGHT OF EMISSION POINT RELATIVE TO OBSERVER START END	
DISTANCE TO EMISSION POINT START END	DIRECTION TO EMISSION PT. (DEGREES (0-360)) START END	
VERTICAL ANGLE TO OBSERVATION POINT START END	DIRECTION TO OBSERVATION POINT (DEGREES (0-360)) START END	
DISTANCE & DIRECTION TO OBSERVATION POINT FROM EMISSION POINT START END		
DESCRIBE EMISSIONS START END		
EMISSION COLOR START END	WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐ NONE ☐	
DESCRIBE PLUME BACKGROUND START END		
BACKGROUND COLOR START END	SKY CONDITIONS START END	
WIND SPEED START END	WIND DIRECTION START END	
AMBIENT TEMP START END	WET BULB TEMP	RH percent



ADDITIONAL INFORMATION

OBSERVATION DATE	START TIME	END TIME

SEC / MIN	0	15	30	45	COMMENTS
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

OBSERVER'S NAME (PRINT)	
OBSERVER'S SIGNATURE	DATE
ORGANIZATION	
CERTIFIED BY	DATE

EC-G-1998-29
R 006259

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 25 1995

MEMORANDUM

SUBJECT: Options for Limiting the Potential to Emit (PTE) of a Stationary Source Under Section 112 and Title V of the Clean Air Act (Act)

FROM: John S. Seitz, Director
Office of Air Quality Planning and Standards (MD-10)

Robert I. Van Heuvelen, Director
Office of Regulatory Enforcement (2241)

TO: Director, Air, Pesticides and Toxics Management Division, Regions I and IV
Director, Air and Waste Management Division, Region II
Director, Air, Radiation and Toxics Division, Region III
Director, Air and Radiation Division, Region V
Director, Air, Pesticides and Toxics Division, Region VI
Director, Air and Toxics Division, Regions VII, VIII, IX, and X

Many stationary source requirements of the Act apply only to "major" sources. Major sources are those sources whose emissions of air pollutants exceed threshold emissions levels specified in the Act. For instance, section 112 requirements such as MACT and section 112(g) and title V operating permit requirements largely apply only to sources with emissions that exceed specified levels and are thus major. To determine whether a source is major, the Act focuses not only on a source's actual emissions, but also on its potential emissions. Thus, a source that has maintained actual emissions at levels below the major source threshold could still be subject to major source requirements if it has the potential to emit major amounts of air pollutants. However, in situations where unrestricted operation of a source would result in a potential to emit above major-source levels, such sources may legally avoid program requirements by taking federally-enforceable permit conditions which limit emissions to levels below the applicable major source threshold. Federally-enforceable permit conditions, if violated, are subject to enforcement by the Environmental Protection Agency (EPA) or by

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citizens in addition to the State or Local agency.

As the deadlines for complying with MACT standards and title V operating permits approach, industry and State and local air pollution agencies have become increasingly focused on the need to adopt and implement federally-enforceable mechanisms to limit emissions from sources that desire to limit potential emissions to below major source levels. In fact, there are numerous options available which can be tailored by the States to provide such sources with simple and effective ways to qualify as minor sources. Because there appears to be some confusion and questions regarding how potential to emit limits may be established, EPA has decided to: (1) outline the available approaches to establishing potential to emit limitations, (2) describe developments related to the implementation of these various approaches, and (3) implement a transition policy that will allow certain sources to be treated as minor for a period of time sufficient for these sources to obtain a federally-enforceable limit.

Federal enforceability is an essential element of establishing limitations on a source's potential to emit. Federal enforceability ensures the conditions placed on emissions to limit a source's potential to emit are enforceable by EPA and citizens as a legal and practical matter, thereby providing the public with credible assurances that otherwise major sources are not avoiding applicable requirements of the Act. In order to ensure compliance with the Act, any approaches developed to allow sources to avoid the major source requirements must be supported by the Federal authorities granted to citizens and EPA. In addition, Federal enforceability provides source owners and operators with assurances that limitations they have obtained from a State or local agency will be recognized by EPA.

The concept of federal enforceability incorporates two separate fundamental elements that must be present in all limitations on a source's potential to emit. First, EPA must have a direct right to enforce restrictions and limitations imposed on a source to limit its exposure to Act programs. This requirement is based both on EPA's general interest in having the power to enforce "all relevant features of SIP's that are necessary for attainment and maintenance of NAAQS and PSD increments" (see 54 FR 27275, citing 48 FR 38748, August 25, 1983) as well as the specific goal of using national enforcement to ensure that the requirements of the Act are uniformly implemented throughout the nation (see 54 FR 27277). Second, limitations must be enforceable as a practical matter.

It is important to recognize that there are shared responsibilities on the part of EPA, State, and local agencies, and on source owners to create and implement approaches to creating acceptable limitations on potential emissions. The lead

responsibility for developing limitations on potential emissions rests primarily with source owners and State and local agencies. At the same time, EPA must work together with interested parties, including industry and States to ensure that clear guidance is established and that timely Federal input, including Federal approval actions, is provided where appropriate. The guidance in this memorandum is aimed towards continuing and improving this partnership.

Available Approaches for Creating Federally-enforceable Limitations on the Potential to Emit

There is no single "one size fits all" mechanism that would be appropriate for creating federally-enforceable limitations on potential emissions for all sources in all situations. The spectrum of available mechanisms should, however, ensure that State and local agencies can create federally-enforceable limitations without undue administrative burden to sources or the agency. With this in mind, EPA views the following types of programs, if submitted to and approved by EPA, as available to agencies seeking to establish federally-enforceable potential to emit limits:[1]

1. Federally-enforceable State operating permit programs (FESOPs) (non-title V). For complex sources with numerous and varying emission points, case-by-case permitting is generally needed for the establishment of limitations on the source's potential to emit. Such case-by-case permitting is often accomplished through a *non*-title V federally-enforceable State operating permit program. This type of permit program, and its basic elements, are described in guidance published in the Federal Register on June 28, 1989 (54 FR 27274). In short, the program must: (a) be approved into the SIP, (b) impose legal obligations to conform to the permit limitations, (c) provide for limits that are enforceable as a practical matter, (d) be issued in a process that provides for review and an opportunity for comment by the public and by EPA, and (e) ensure that there is no relaxation of otherwise applicable Federal requirements. The EPA believes that these type of programs can be used for both criteria pollutants and hazardous air pollutants, as described in the memorandum, "Approaches to Creating Federally-Enforceable Emissions Limits," November 3, 1993. This memorandum (referred to below as the November 1993 memorandum) is included for your information as Attachment 1. There are a number of important clarifications with respect to hazardous air pollutants subsequent to the November 1993 memorandum which are discussed

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[1]This is not an exhaustive list of considerations affecting potential to emit. Other federally-enforceable limits can be used, for example, source-specific SIP revisions. For brevity, we have included those which have the widest applicability.

below (see section entitled "Limitations on Hazardous Air Pollutants").

2. Limitations established by rules. For less complex plant sites, and for source categories involving relatively few operations that are relatively similar in nature, case-by-case permitting may not be the most administratively efficient approach to establishing federally-enforceable restrictions. One approach that has been used is to establish a general rule which creates federally-enforceable restrictions at one time for many sources (these rules have been referred to as "exclusionary" rules and by some permitting agencies as "prohibitory" rules). A specific suggested approach for volatile organic compounds (VOC) limits by rule was described in EPA's memorandum dated October 15, 1993 entitled "Guidance for State Rules for Optional Federally-Enforceable Emissions Limits Based Upon Volatile Organic Compound (VOC) Use." An example of such an exclusionary rule is a model rule developed for use in California. (The California model rule is attached, along with a discussion of its applicability to other situations--see Attachment 2). Exclusionary rules are included in a State's SIP and generally become effective upon approval by EPA.

3. General permits. A concept similar to the exclusionary rule is the establishment of a general permit for a given source type. A general permit is a single permit that establishes terms and conditions that must be complied with by all sources subject to that permit. The establishment of a general permit provides for conditions limiting potential to emit in a one-time permitting process, and thus avoids the need to issue separate permits for each source within the covered source type or category. Although this concept is generally thought of as an element of a title V permit program, there is no reason that a State or local agency could not submit a general permit program as a SIP submittal aimed at creating potential to emit limits for groups of sources. Additionally, general permits can be issued under the auspices of a SIP-approved FESOP. The advantage of a general permit, when compared to an exclusionary rule, is that upon approval by EPA of the State's permit program, a general permit could be written for one or more additional source types without triggering the need for the formal SIP revision process.

4. Construction permits. Another type of case-by-case permit is a construction permit. These permits generally cover new and modified sources, and States have developed such permit programs as an element of their SIP's. As described in the November 1993 memorandum, these State major and minor new source review (NSR) construction permits can provide for federally-enforceable limitations on a source's potential to emit. Further discussion of the use of minor source NSR programs is contained in EPA's letter to Jason Grumet, NESCAUM, dated November 2, 1994,

which is contained in Attachment 3. As noted in this letter, the usefulness of minor NSR programs for the creation of potential to emit limitations can vary from State to State, and is somewhat dependent on the scope of a State's program.

5. Title V permits. Operating permits issued under the Federal title V operating permits program can, in some cases, provide a convenient and readily available mechanism to create federally-enforceable limits. Although the applicability date for part 70 permit programs is generally the driving force for most of the current concerns with respect to potential to emit, there are other programs, such as the section 112 air toxics program, for which title V permits may themselves be a useful mechanism for creating potential to emit limits. For example, many sources will be considered to be major by virtue of combustion emissions of nitrogen oxides or sulfur dioxide, and will be required to obtain part 70 permits. Such permits could be used to establish federally-enforceable limitations that could ensure that the source is not considered a major source of hazardous air pollutants.

Practicable Enforceability

If limitations--whether imposed by SIP rules or through individual or general permits--are incomplete or vague or unsupported by appropriate compliance records, enforcement by the States, citizens and EPA would not be effective. Consequently, in all cases, limitations and restrictions must be of sufficient quality and quantity to ensure accountability (see 54 FR 27283).

The EPA has issued several guidance documents explaining the requirements of practicable enforceability (e.g., "Guidance on Limiting Potential to Emit in New Source Permitting," June 13, 1989; memorandum from John Rasnic entitled "Policy Determination on Limiting Potential to Emit for Koch Refining Company's Clean Fuels Project," March 13, 1992). In general, practicable enforceability for a source-specific permit means that the permit's provisions must specify: (1) A technically-accurate limitation and the portions of the source subject to the limitation; (2) the time period for the limitation (hourly, daily, monthly, and annual limits such as rolling annual limits); and (3) the method to determine compliance including appropriate monitoring, recordkeeping, and reporting. For rules and general permits that apply to categories of sources, practicable enforceability additionally requires that the provisions: (1) identify the types or categories of sources that are covered by the rule; (2) where coverage is optional, provide for notice to the permitting authority of the source's election to be covered by the rule; and (3) specify the enforcement consequences relevant to the rule. More specific guidance on these enforceability principles as they apply to rules and general permits is provided in Attachment 4.

Limitations on Hazardous Air Pollutants (HAP)

There are a number of important points to recognize with respect to the ability of existing State and local programs to create limitations for the 189 HAP listed in (or pursuant to) section 112(b) of the Act, consistent with the definitions of "potential to emit" and "federally-enforceable" in 40 CFR 63.2 (promulgated March 16, 1994, 59 FR 12408 in the part 63 General Provisions). The EPA believes that most State and local programs should have broad capabilities to handle the great majority of situations for which a potential to emit limitation on HAP is needed.

First, it is useful to note that the definition of potential to emit for the Federal air toxics program (see the subpart A "general provisions," section 63.2) considers, for purposes of controlling HAP emissions, federally-enforceable limitations on criteria pollutant emissions if "the *effect* such limitations would have on "[hazardous air pollutant] . . . emissions" is federally-enforceable (emphasis added). There are many examples of such criteria pollutant emission limits that are present in federally-enforceable State and local permits and rules. Examples would include a limitation constraining an operation to one (time limit specified) shift per day or limitations that effectively limit operations to 2000 hours per year. Other examples would include limitations on the amount of material used, for example a permit limitation constraining an operation to using no more than 100 gallons of paint per month. Additionally, federally-enforceable permit terms that, for example, required an incinerator to be operated and maintained at no less than 1600 degrees would have an obvious "effect" on the HAP present in the inlet stream.

Another federally-enforceable way criteria pollutant limitations affect HAP can be described as a "nested" HAP limit within a permit containing conditions limiting criteria pollutants. For example, the particular VOC's within a given operation may include toluene and xylene, which are also HAP. If the VOC-limiting permit has established limitations on the amount of toluene and xylene used as the means to reduce VOC, those limitations would have an obvious "effect" on HAP as well.

In cases as described above, the "effect" of criteria pollutant limits will be straightforward. In other cases, information may be needed on the nature of the HAP stream present. For example, a limit on VOC that ensured total VOC's of 20 tons per year may not ensure that each HAP present is less than 10 tons per year without further investigation. While the EPA intends to develop further technical guidance on situations for which additional permit terms and conditions may be needed to ensure that the "effect" is enforceable as a practical matter, the EPA intends to rely on State and local agencies to employ

care in drafting enforceable requirements which recognize obvious environmental and health concerns.

There are, of course, a few important pollutants which are HAP but are not criteria pollutants. Example of these would include methylene chloride and other pollutants which are considered nonreactive and therefore exempt from coverage as VOC's. Especially in cases where such pollutants are the only pollutants present, criteria pollutant emission limitations may not be sufficient to limit HAP. For such cases, the State or local agency will need to seek program approval under section 112(l) of the Act.

Section 112(l) provides a clear mechanism for approval of State and local air toxics programs for purposes of establishing HAP-specific PTE limits. The EPA intends, where appropriate, that in approving permitting programs into the SIP, to add appropriate language citing approval pursuant to section 112(l) as well. An example illustrating section 112(l) approval is the approval of the State of Ohio's program for limiting potential to emit (see 59 FR 53587, October 25, 1994). In this notice, EPA granted approval under section 112(l) for hazardous air pollutants aspects of a State program for limiting potential to emit. Such language can be added to any federally-enforceable State operating permit program, exclusionary rule, or NSR program update SIP approval notice so long as the State or local program has the authority to regulate HAP and meets other section 112(l) approval criteria. Transition issues related to such section 112(l) approvals are discussed below.

Determination of Maximum Capacity

While EPA and States have been calculating potential to emit for a number of years, EPA believes that it is important at this time to provide some clarification on what is meant in the definition of potential to emit by the "maximum capacity of a stationary source to emit under its physical and operational design." Clearly, there are sources for which inherent physical limitations for the operation restrict the potential emissions of individual emission units. Where such inherent limitations can be documented by a source and confirmed by the permitting agency, EPA believes that States have the authority to make such judgements and factor them into estimates of a stationary source's potential to emit.

The EPA believes that the most straightforward examples of such inherent limitations is for single-emission unit type operations. For example, EPA does not believe that the "maximum capacity" language requires that owner of a paint spray booth at a small auto body shop must assume that (even if the source could be in operation year-round) spray equipment is operated 8760 hours per year in cases where there are inherent physical

limitations on the number of cars that can be painted within any given period of time. For larger sources involving multiple emissions units and complex operations, EPA believes it can be more problematic to identify the inherent limitations that may exist.

The EPA intends, within its resource constraints, to issue technical assistance in this area by providing information on the type of operational limits that may be considered acceptable to limit the potential to emit for certain individual small source categories.

Transition Guidance for Section 112 and Title V Applicability

Most, if not all, States have recognized the need to develop options for limiting the potential emissions of sources and are moving forward with one or more of the strategies described in the preceding sections in conjunction with the submission and implementation of their part 70 permit programs. However, EPA is aware of the concern of States and sources that title V or section 112 implementation will move ahead of the development and implementation of these options, leaving sources with actual emissions clearly below the major source thresholds potentially subject to part 70 and other major source requirements. Gaps could theoretically occur during the time period it takes for a State program to be designed and administratively adopted by the State, approved into the SIP by EPA, and implemented as needed to cover individual sources.

The EPA is committed to aiding all States in developing and implementing adequate, streamlined, and cost-effective vehicles for creating federally-enforceable limits on a source's potential emissions by the time that section 112 or title V requirements become effective. To help bridge any gaps, EPA will expedite its reviews of State exclusionary rules and operating permit rules by, among other things, coordinating the approval of these rules with the approval of the State's part 70 program and by using expeditious approval approaches such as "direct final" Federal Register notices to ensure that approval of these programs does not lag behind approval of the part 70 program.

In addition, in such approval notices EPA will affirm any limits established under the State's program since its adoption by the State but prior to Federal approval if such limits were established in accordance with the procedures and requirements of the approved program. An example of language affirming such limits was recently used in approving an Illinois SIP revision (see 57 FR 59931, included as Attachment 5).

The EPA remains concerned that even with expedited approvals and other strategies, sources may face gaps in the ability to acquire federally-enforceable potential to emit limits due to

delays in State adoption or EPA approval of programs or in their implementation. In order to ensure that such gaps do not create adverse consequences for States or for sources, EPA is announcing a transition policy for a period up to two years from the date of this memorandum. The EPA intends to make this transition policy available at the discretion of the State or local agency to the extent there are sources which the State believes can benefit from such a transition policy. The transition period will extend from now until the gaps in program implementation are filled, but no later than January 1997. Today's guidance, which EPA intends to codify through a notice and comment rulemaking, provides States discretion to use the following options for satisfying potential to emit requirements during this transition period.

1. Sources maintaining emissions below 50 percent of all applicable major source requirements. For sources that typically and consistently maintain emissions significantly below major source levels, relatively few benefits would be gained by making such sources subject to major source requirements under the Act. For this reason, many States are developing exclusionary rules and general permits to create simple, streamlined means to ensure that these sources are not considered major sources. To ease the burden on States' implementation of title V, and to ensure that delays in EPA's approval of these types of programs will not cause an administrative burden on the States, EPA is providing a 2-year transition period for sources that maintain their actual emissions, for every consecutive 12-month period (beginning with the 12 months immediately preceding the date of this memorandum), at levels that do not exceed 50 percent of any and all of the major stationary source thresholds applicable to that source. A source that exceeds the 50 percent threshold, without complying with major source requirements of the Act (or without otherwise limiting its potential to emit), could be subject to enforcement. For this 2-year period, such sources would not be treated as major sources and would not be required to obtain a permit that limits their potential to emit. To qualify under this transition policy, sources must maintain adequate records on site to demonstrate that emissions are maintained below these thresholds for the entire as major sources and would not be required to obtain a permit that limits their potential to emit that would be considered to be adequate during this transition period. Consistent with the California approach, EPA believes it is appropriate for the amount of recordkeeping to vary according to the level of emissions (see paragraphs 1.2 and 4.2 of the attached rule).

2. Larger sources with State limits. For the 2-year transition period, restrictions contained in State permits issued to sources above the 50 percent threshold would be treated by EPA as acceptable limits on potential to emit, provided: (a) the permit is enforceable as a practical matter; (b) the source owner submits a written certification to EPA that it will comply with

the limits as a restriction on its potential to emit; and (c) the source owner, in the certification, accepts Federal and citizen enforcement of the limits (this is appropriate given that the limits are being taken to avoid otherwise applicable Federal requirements). Such limits will be valid for purposes of limiting potential to emit from the date the certification is received by EPA until the end of the transition period. States interested in making use of this portion of the transition policy should work with their Regional Office to develop an appropriate certification process.

3. Limits for noncriteria HAP. For noncriteria HAP for which no existing federally-approved program is available for the creation of federally-enforceable limits, the 2-year transition period provides for sufficient time to gain approval pursuant to section 112(l). For the 2-year transition period, State restrictions on such noncriteria pollutants issued to sources with emissions above the 50 percent threshold would be treated by EPA as limiting a source's potential to emit, provided that: (a) the restrictions are enforceable as a practical matter; (b) the source owner submits a written certification to EPA that it will comply with the limits as a restriction on its potential to emit; and (c) the source owner, in the certification, accepts Federal and citizen enforcement of the limits. Such limits will be valid for purposes of limiting potential to emit from the date the certification is received by EPA until the end of the transition period.

The Regional Offices should send this memorandum, including the attachments, to States within their jurisdiction. Questions concerning specific issues and cases should be directed to the appropriate Regional Office. Regional Office staff may contact Timothy Smith of the Integrated Implementation Group at 919-541-4718, or Clara Poffenberger with the Air Enforcement Division at 202-564-8709.

Attachments

cc: Air Branch Chief, Region I-X
Regional Counsels

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

NOV 3 1993

MEMORANDUM

SUBJECT: Approaches to Creating Federally-Enforceable Emissions Limits

FROM: John S. Seitz, Director
Office of Air Quality Planning and Standards (MD-10)

TO: Director, Air, Pesticides and Toxics Management Division, Regions I and IV
Director, Air and Waste Management Division, Region II
Director, Air, Radiation and Toxics Division, Region III
Director, Air and Radiation Division, Region V
Director, Air, Pesticides and Toxics Division, Region VI
Director, Air and Toxics Division, Regions VII, VIII, IX, and X

The new operating permits program under title V of the Clean Air Act (Act), combined with the additional and lower thresholds for "major" sources also provided by the 1990 Amendments to the Act, has led to greatly increased interest by State and local air pollution control agencies, as well as sources, in obtaining federally-enforceable limits on source potential to emit air pollutants. Such limits entitle sources to be considered "minor" for the purposes of title V permitting and various other requirements of the Act. Numerous parties have identified this as a high priority concern potentially involving thousands of sources in each of the larger States.

The issue of creating federally-enforceable emissions limits has broad implications throughout air programs. Although many of the issues mentioned above have arisen in the context of the title V permits program, the same issues exist for other programs, including those under section 112 of the Act. As discussed below, traditional approaches to creating federally-enforceable emissions limits may be unnecessarily burdensome and time-consuming for certain types and sizes of sources. In addition, they have been of limited usefulness with respect to creating such limits for emissions of hazardous air pollutants (HAP's).

The purpose of this memorandum is to respond to these needs by announcing the availability of two further approaches to creating federally-enforceable emissions limits: the extension of existing criteria pollutant program mechanisms for HAP program

purposes, and the creation of certain classes of standardized emissions limits by rule. We believe that these options are responsive to emerging air program implementation issues and provide a reasonable balance between the need for administrative streamlining and the need for emissions limits that are technically sound and enforceable.

Background

Various regulatory options already exist for the creation of federally-enforceable limits on potential to emit. These were summarized in a September 18, 1992 memorandum from John Calcagni, Director, Air Quality Management Division. That memorandum identified the five regulatory mechanisms generally seen as available. These are: State major and minor new source review (NSR) permits [if the NSR program has been approved into the State implementation plan (SIP) and meets certain procedural requirements]; operating permits based on programs approved into the SIP pursuant to the criteria in the June 28, 1989 Federal Register (54 FR 27274); and title V permits (including general permits). Also available are SIP limits for individual sources and limits for HAP's created through a State program approved pursuant to section 112(l) of the Act.

Regional Office and State air program officials realize that these five options are generally workable, but feel that the programs emerging from the 1990 Amendments present certain further needs that are not well met. They note that NSR is not always available, title V permitting can be more rigorous than appropriate for those sources that are in fact quite small, and that general permits have limitations in their usefulness. The use of State operating permits approved into the SIP pursuant to the June 28, 1989 Federal Register is generally considered to be a promising option for some of these transactions; however, these programs do not regulate toxics directly.

State Operating Permits for Both Criteria Pollutants and HAP's

As indicated above, State operating permits issued by programs approved into the SIP pursuant to the process provided in the June 28, 1989 Federal Register are recognized as federally enforceable. This is a useful option, but has historically been viewed as limited in its ability to directly create emissions limits for HAP's because of the SIP focus on criteria pollutants.

Since that option was created, however, section 112 of the Act has been rewritten, creating significant new regulatory requirements and conferring additional responsibilities and authorities upon the Environmental Protection Agency (EPA) and the States. Section 112 now mandates a wide range of activities:

source-specific preconstruction reviews, areawide approaches to controlling risk, provisions for permitting pursuant to the title V permitting program, and State program provisions in section 112(l) that are similar to aspects of the SIP program. A result of these changes is that implementation of toxics programs will entail the use of many of the same administrative mechanisms as have been in use for the criteria pollutant programs.

Upon further analysis of these new program mandates and corresponding authorities, EPA concludes that section 112 of the Act, including section 112(l), authorizes it to recognize these same State operating permits programs for the creation of federally-enforceable emissions limits in support of the implementation of section 112. Congress recognized, and longstanding State practice confirms, that operating permits are core-implementing mechanisms for air quality program requirements. This was EPA's basis for concluding that section 110 of the Act authorizes the recognition and approval into the SIP of operating permits pursuant to the June 28, 1989 promulgation, even though section 110 did not expressly provide for such a program. Similarly, broad provision of section 112(l) for "a program for the implementation and enforcement . . . of emission standards and other requirements for air pollutants subject to this section" provides a sound basis for EPA recognition of State operating permits for implementation and enforcement of section 112 requirements in the same manner as these permitting processes were recognized pursuant to section 110.

In implementing this authority to approve State operating permits programs pursuant to section 112, it should be noted that the specific criteria for what constitutes a federally-enforceable permit are also the same as for the existing SIP programs. The June 28, 1989 Federal Register essentially addressed in a generic sense the core criteria for creating federally-enforceable emissions limits in operating permits: appropriate procedural mechanisms, including public notice and opportunity for comment, statutory authority for EPA approval of the State program, and enforceability as a practical matter. The EPA did this in the context of SIP development, not because these criteria are specific to the SIP, but because section 110 of the Act was seen as our only certain statutory basis for this prior to the 1990 Amendments. Based on the discussion above, States can extend or develop State operating permits programs for toxics pursuant to the criteria set forth in the June 28, 1989 Federal Register. The EPA is also evaluating analogous opportunities to enhance State NSR programs to address toxics and will address this in future guidance.

This is a significant opportunity to limit directly the emissions of HAP's. It also offers the advantage of the administrative efficiencies that arise from using existing

administrative mechanisms, as opposed to creating additional ones.

States are encouraged to consult with EPA Regional Offices to discuss the details of adapting their current programs to carry out these additional functions. The EPA will consider State permitting programs meeting the criteria in the June 28, 1989 Federal Register as being approvable for HAP program functions as well. States may submit their programs for implementing this process with their part 70 program submittals, or at such other time as they choose. The EPA has various options for administratively recognizing these State program submittals. The EPA plans initially to review these State programs as SIP review actions, but with official recognition pursuant to authorities in both sections 110 and 112. Once rulemaking pursuant to section 112(l) of the Act is completed, EPA expects to use the process developed in that rule for approving State programs for HAP's. The section 112(l) process may be especially useful prior to EPA approval and implementation of the State title V programs. The reader may wish to refer to the process for certain section 112(l) approvals proposed on May 19, 1993 (58 FR 29296) (see section 63.91).

The General Provisions (40 CFR part 63) establish the applicability framework for the implementation of section 112. In the final rule, EPA will indicate that State operating permits programs which meet the procedural requirements of the June 28, 1989 Federal Register can be used to develop federally-enforceable emissions limits for HAP's, thereby limiting a source's potential to emit. In addition, after we gain implementation experience, EPA will be evaluating the usefulness of further rulemaking to define more specific criteria by which this process may be used in the implementation of programs under section 112 of the Act. Any such rulemaking could similarly be incorporated into the General Provisions in part 63.

State-Standardized Processes Created by Rule to Establish Source-Specific, Federally-Enforceable Emissions Limits

State air program officials have highlighted specific types of sources that are of particular administrative concern because of their nature and number. These include sources whose emissions are primarily volatile organic compounds (VOC) arising from use of solvents or coatings, such as automobile body shops. Another example is fuel-burning sources that have low actual emissions because of limited hours of operation, but with the potential to emit sulfur dioxide in amounts sufficient to cause them to be classified as major sources.

The EPA recognizes that emissions limitations for some processes can be created through standardized protocols. For example, limitations on potential to emit could be established

for certain VOC sources on the basis of limits on solvent use, backed up by recordkeeping and by periodic reporting. Similarly, limitations on sulfur dioxide emissions could be based on specified sulfur content of fuel and the source's obligation to limit usage to certain maximum amounts. Limits on hours of operation may be acceptable for certain others sources, such as standby boilers. In all cases, of course, the technical requirements would need to be supported by sufficient compliance procedures, especially monitoring and reporting, to be considered enforceable.

The EPA concludes that such protocols could be relied on to create federally-enforceable limitations on potential to emit if adopted through rulemaking and approved by EPA. Although such an approach is appropriate for only a limited number of source categories, these categories include large numbers of sources, such as dry cleaners, auto body shops, gas stations, printers, and surface coaters. If such standardized control protocols are sufficiently reliable and replicable, EPA and the public need not be involved in their application to individual sources, as long as the protocols themselves have been subject to notice and opportunity to comment and have been approved by EPA into the SIP.

To further illustrate this concept and to provide implementation support to the States, EPA has recently released guidance on one important way of using this process. This document, entitled "Guidance for State Rules for Optional Federally-Enforceable Emissions Limits Based on Volatile Organic Compound Use," was issued by D. Kent Berry, Acting Director, Air Quality Management Division, on October 15, 1993. It describes approvable processes by which States can create federally-enforceable emissions limits for VOC for large numbers of sources in a variety of source categories.

States have flexibility in their choice of administrative process for implementation. In some cases, it may be adequate for a State to apply these limits to individual sources through a registration process rather than a permit. A source could simply submit a certification to the State committing to comply with the terms of an approved protocol. Violations of these certifications would constitute SIP violations, in the case of protocols approved into the SIP, and be subject to the same enforcement mechanisms as apply in the case of any other SIP violation. Such violations would, of course, also subject the source to enforcement for failure to comply with the requirements that apply to major sources, such as the requirement to obtain a title V permit or comply with various requirements of section 112 of the Act.

Some States have also indicated an interest in more expansive approaches to implementing this concept, such as making

presumptive determinations of control equipment efficiency with respect to particular types of sources and pollutants. While such approaches are more complicated and present greater numbers of concerns in the EPA review process, they offer real potential if properly crafted. The EPA will evaluate State proposals and approve them if they are technically sound and enforceable as a practical matter.

States may elect to use this approach to create federally-enforceable emissions limits for sources of HAP's as well. Based on the same authorities in section 112 of the Act, as cited above in the case of operating permits, EPA can officially recognize such State program submittals. As with the operating permits option discussed in the preceding section, EPA plans initially to review these activities as SIP revisions, but with approval pursuant to both sections 110 and 112 of the Act, and approve them through the section 112(l) process when that rule is final.

Implementation Guidance

As indicated above, the creation of federally-enforceable limits on a source's potential to emit involves the identification of the procedural mechanisms for these efforts, including the statutory basis for their approval by EPA, and the technical criteria necessary for their implementation. Today's guidance primarily addresses the procedural mechanisms available and the statutory basis for EPA approval.

The EPA will be providing further information with respect to the implementation of these concepts. As described above, the first portion of this guidance, addressing limits on VOC emissions, was issued on October 15, 1993. My office is currently working with Regional Offices and certain States in order to assist in the development of program options under consideration by those States. We will provide technical and regulatory support to other State programs and will make the results of these efforts publicly available through the Office of Air Quality Planning and Standards (OAQPS) Technology Transfer Network bulletin board.

We will provide further support through the release of a document entitled "Enforceability Requirements for Limiting Potential to Emit Through SIP Rules and General Permits," which is currently undergoing final review within EPA. In addition, EPA will be highlighting options for use of existing technical guidance with respect to creating sound and enforceable emissions limits. An important example of such guidance is the EPA "Blue Book," which has been in use by States for the past 5 years as part of their VOC control programs.

States are encouraged to discuss program needs with their EPA Regional Offices. The OAQPS will work with them in addressing approvals. As indicated, additional technical guidance for implementing these approaches is underway and will be made publicly available soon. For further information, please call Kirt Cox at (919) 541-5399.

cc: Air Branch Chief, Regions I-X
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Attachment 2
California Example Rule

Background

State agencies and local agencies (such as the Air Pollution Control Districts in California) can adopt rules which place emissions limitations on a category of sources through a combination of limitations and compliance requirements. These rules, if practicably enforceable, adopted with adequate public process and approved into the SIP, can validly limit potential to emit. Moreover, because State or local rules can cover many sources with a single regulatory action, they are well-suited to cover large populations of smaller sources. Many States are finding that a combination of SIP rules or general permits for smaller sources combined with individual permits for larger sources provides the simplest means of ensuring that minor source emissions are adequately limited.

Discussion of California Rule

The EPA, the California Air Pollution Control Officers Association and the California Air Resources Board recently completed development of a model rule for use by the California Air Pollution Control Districts. Because the rule contains several innovations, including covering all source categories, and should prove to be an inexpensive and efficient means of limiting the potential emissions of thousands of sources in California, the EPA believes that parts of the rule may be helpful for other States to review and consider.

The proposed rule is designed to place smaller sources under annual emissions limits which restrict their "potential to emit" and thus their exposure to "major source" requirements of the Clean Air Act. The rule ensures compliance with the annual limit through a series of recordkeeping and reporting requirements. These requirements are tapered to reduce burdens as source size decreases. The rule creates three levels of responsibility. The first tier requires both recordkeeping and reporting. The second tier requires only recordkeeping with no reporting. For instance, sources that emit only attainment pollutants which limit their emissions to below 25 tons per year have no reporting requirement. For sources under 5 tons per year (or 2 tons per year for a single hazardous air pollutant), there is no specified recordkeeping or reporting requirements although these sources must still maintain sufficient records to demonstrate their compliance with the rule.

To the extent possible, the recordkeeping requirements are itemized by source category and are designed to take advantage of

records that sources are already likely to maintain. Through these measures, the rule should assure the public that the sources subject to the rule are properly maintaining their emissions below major source levels, while maximizing source flexibility and minimizing paperwork.

There are other safeguards built into the rule and in California's overall regulatory scheme which add to the EPA's confidence that the proposal can work. The rule applies only to sources that agree to limit their emissions to 50 percent or less of the major source threshold. Sources with emissions above this level must either comply with all applicable "major source" requirements or secure a source-specific, federally-enforceable Air Pollution Control District permit that properly limits emissions to levels below major source thresholds. Some sources may be able to qualify for an "alternative operation limit" which places simple operating limits on a source's combustion of fuel, sale of gasoline or use of a solvent. Because of the ease with which compliance can be tracked with operational limits, the rule allows sources using these limits to go up to 80 percent of the major source threshold. Either way, EPA believes that the rule creates a sufficient compliance buffer.

Moreover, California has an extensive permit and inspection infrastructure that increases EPA's confidence that the rule will prove adequate for limiting emissions. California law requires that, upon annual renewal, each permit be reviewed to determine that the permit conditions are adequate to assure compliance with district rules and other applicable requirements. In addition, most California Air Pollution Control Districts have an extensive inspection program which means that compliance with the rule will be spot checked by inspectors visiting the source.

Finally, the rule is designed to provide smaller sources with a federally-enforceable means of limiting their potential emissions. The rule excludes sources that already have a federally enforceable operating permit, and it cannot be used to avoid complying with an permit required by the Air Pollution Control Districts.

Aside from these general observations, EPA did have a number of comments regarding specific language included in the rule. The three most significant comments are set forth below. However, States interested in using this rule as a model should be aware that it was specifically designed to fit with California State law and existing SIP provisions and that States may wish to consider making other changes to reflect their individual needs and requirements.

Section 2.7: In a PM-10 nonattainment area, PM-10 precursors may need to be included when determining whether a source is major as required by section 189(e) of the Clean Air Act. Districts adopting this model rule should consider whether the definition of "Major Source" in section 2.7 should be augmented to include sources of PM-10 precursors.

Section 4.2(D): The rule allows sources using air pollution control equipment to demonstrate compliance through the maintenance of general records on the unit and its operations. EPA has always been concerned with this provision since many pollution control units are only effective if specific operating procedures are followed. These specifics are best set and tracked in a source-specific, federally enforceable permit. For this reason, section 1.3 sunsets the applicability of the draft rule, after January 1, 1999, to pollution control equipment. For the coverage to continue beyond that date, a district must extend the provision. The EPA will disapprove the extension if the experience with the rule demonstrates that more specific conditions are needed to ensure that pollution control devices are being used properly and continuously.

Section 4.2(E): In general, EPA does not favor the use of generic or catch-all recordkeeping requirements for compliance purposes. There is a fear that the records necessary to show compliance for individual source categories will not be specified by the generic provision and thus will not be maintained. For this reason, EPA urges the Board and the Districts to evaluate regularly whether specific recordkeeping requirements should be developed for additional categories. As we noted during our negotiations, EPA will evaluate this question after the rule is in effect for three years and the EPA may seek -- through a SIP call or through other mechanisms -- to require additional recordkeeping requirements if there are implementation problems with this generic category. The districts may wish to add to the rule a provision which would authorize them to add recordkeeping requirements for additional source categories without a further SIP revision.

State of California
Proposed Rule to Limit
Potential to Emit
January 11, 1995

1.0 APPLICABILITY

1.1 General Applicability: This rule shall apply to any stationary source which would, if it did not comply with the limitations set forth in this rule, have the potential to emit air contaminants equal to or in excess of the threshold for a major source of regulated air pollutants or a major source of hazardous air pollutants (HAPs) and which meets one of the following conditions:

A. In every 12-month period, the actual emissions of the stationary source are less than or equal to the emission limitations specified in section 3.1 below; or

B. In every 12-month period, at least 90 percent of the emissions from the stationary source are associated with an operation limited by any one of the alternative operational limits specified in section 6.1 below.

1.2 Stationary Source with De Minimis Emissions: The recordkeeping and reporting provisions in sections 4.0, 5.0 and 6.0 below shall not apply to a stationary source with de minimis emissions or operations as specified in either subsection A or B below:

A. In every 12-month period, the stationary source emits less than or equal to the following quantities of emissions:

1. 5 tons per year of a regulated air pollutant (excluding HAPs),

2. 2 tons per year of a single HAP,

3. 5 tons per year of any combination of HAPs, and

4. 20 percent of any lesser threshold for a single HAP that the United States Environmental Protection Agency (U.S. EPA) may establish by rule.

B. In every 12-month period, at least 90 percent of the stationary source's emissions are associated with an operation for which the throughput is less than or equal to one of the quantities specified in subsections 1 through 9 below:

1. 1,400 gallons of any combination of solvent-containing materials but no more than 550 gallons of any one solvent-containing material, provided that the materials do not contain the following: methyl chloroform (1,1,1-trichloroethane), methylene chloride (dichloromethane), tetrachloroethylene (perchloroethylene), or trichloroethylene;

2. 750 gallons of any combination of solvent-containing materials where the

materials contain the following: methyl chloroform (1,1,1-trichloroethane), methylene chloride (dichloromethane), tetrachloroethylene (perchloroethylene), or trichloroethylene, but not more than 300 gallons of any one solvent-containing material;

3. ____ gallons of solvent-containing (or volatile organic compound containing) material used at a paint spray unit(s);[1]

4. 4,400,000 gallons of gasoline dispensed from equipment with Phase I and II vapor recovery systems;

5. 470,000 gallons of gasoline dispensed from equipment without Phase I and II vapor recovery systems;

6. 1,400 gallons of gasoline combusted;

7. 16,600 gallons of diesel fuel combusted;

8. 500,000 gallons of distillate oil combusted, or

9. 71,400,000 cubic feet of natural gas combusted.

Within 30 days of a written request by the District or the U.S. EPA, the owner or operator of a stationary source not maintaining records pursuant to sections 4.0 or 6.0 shall demonstrate that the stationary source's emissions or throughput are not in excess of the applicable quantities set forth in subsection A or B above.

1.3 Provision for Air Pollution Control Equipment: The owner or operator of a stationary source may take into account the operation of air pollution control equipment on the capacity of the source to emit an air contaminant if the equipment is required by Federal, State, or District rules and regulations or permit terms and conditions. The owner or operator of the stationary source shall maintain and operate such air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. This provision shall not apply after January 1, 1999 unless such operational limitation is federally enforceable or unless the District Board specifically extends this provision and it is submitted to the U.S. EPA. Such extension shall be valid unless, and until, the U.S. EPA disapproves the extension of this provision.

1.4 *Exemption, Stationary Source Subject to Rule ____ (District Title V rule):* This rule shall not apply to the following stationary sources:

A. Any stationary source whose actual emissions, throughput, or operation, at any time after the effective of this rule, is greater than the quantities specified in sections 3.1 or 6.1 below and which meets both of the following conditions:

[1]To be determined based on district SIP rules

1. The owner or operator has notified the District at least 30 days prior to any exceedance that s/he will submit an application for a Part 70 permit, or otherwise obtain federally-enforceable permit limits, and

2. A complete Part 70 permit application is received by the District, or the permit action to otherwise obtain federally-enforceable limits is completed, within 12 months of the date of notification.

However, the stationary source may be immediately subject to applicable federal requirements, including but not limited to, a maximum achievable control technology (MACT) standard.

B. Any stationary source that has applied for a Part 70 permit in a timely manner and in conformance with Rule ____ (the District's Title V rule), and is awaiting final action by the District and U.S. EPA.

C. Any stationary source required to obtain an operating permit under Rule ____ (the District's Title V rule) for any reason other than being a major source.

D. Any stationary source with a valid Part 70 permit.

Notwithstanding subsections B and D above, nothing in this section shall prevent any stationary source which has had a Part 70 permit from qualifying to comply with this rule in the future in lieu of maintaining an application for a Part 70 permit or upon rescission of a Part 70 permit if the owner or operator demonstrates that the stationary source is in compliance with the emissions limitations in section 3.1 below or an applicable alternative operational limit in section 6.1 below.

1.5 Exemption, Stationary Source with a Limitation on Potential to Emit: this rule shall not apply to any stationary source which has a valid operating permit with federally-enforceable conditions or other federally-enforceable limits limiting its potential to emit to below the applicable threshold(s) for a major source as defined in sections 2.7 and 2.8 below.

1.6 Within three years of the effective date of Rule ____ (District Title V rule), the District shall maintain and make available to the public upon request, for each stationary source subject to this rule, information identifying the provisions of this rule applicable to the source.

1.7 This rule shall not relieve any stationary source from complying with requirements pertaining to any otherwise applicable preconstruction permit, or to replace a condition or term of any preconstruction permit, or any provision of a preconstruction permitting program.[2] This does not preclude issuance of any preconstruction permit with conditions or terms necessary to ensure compliance with this rule.

[2]For example, PSD, NSR, and ATC

2.0 DEFINITIONS

All terms shall retain the definitions provided under 40 CFR Part 70.2 [alternatively, the District Title V rule] unless otherwise defined herein.

2.1 12-month period: A period of twelve consecutive months determined on a rolling basis with a new 12-month period beginning on the first day of each calendar month.

2.2 Actual Emissions: The emissions of a regulated air pollutant from a stationary source for every 12-month period. Valid continuous emission monitoring data or source test data shall be preferentially used to determine actual emissions. In the absence of valid continuous emissions monitoring data or source test data, the basis for determining actual emissions shall be: throughputs of process materials; throughputs of materials stored; usage of materials; data provided in manufacturer's product specifications; material volatile organic compound (VOC) content reports or laboratory analyses; other information required by this rule and applicable District, State and Federal regulations; or information requested in writing by the District. All calculations of actual emissions shall use U.S. EPA, California Air Resources Board (CARB) or District approved methods, including emission factors and assumptions.

2.3 Alternative Operational Limit: A limit on a measurable parameter, such as hours of operation, throughput of materials, use of materials, or quantity of product, as specified in Section 6.0, Alternative Operational Limit and Requirements.

2.4 Emission Unit: Any article, machine, equipment, operation, contrivance or related groupings of such that may produce and/or emit any regulated air pollutant or hazardous air pollutant.

2.5 Federal Clean Air Act: The federal Clean Air Act (CAA) as amended in 1990 (42 U.S.C. section 7401 et seq.) and its implementing regulations.

2.6 Hazardous Air Pollutant: Any air pollutant listed pursuant to section 112(b) of the federal Clean Air Act.

2.7 Major Source of Regulated Air Pollutants (excluding HAPs): A stationary source that emits or has the potential to emit a regulated air pollutant (excluding HAPs) in quantities equal to or exceeding the lesser of any of the following thresholds:

A. 100 tons per year (tpy) of any regulated air pollutant;

B. 50 tpy of volatile organic compounds or oxides of nitrogen for a federal ozone nonattainment area classified as serious, 25 tpy for an area classified as severe, or 10 tpy for an area classified as extreme; and

C. 70 tpy of PM_{10} for a federal PM_{10} nonattainment area classified as serious.

Fugitive emissions of these pollutants shall be considered in calculating total emissions for stationary sources in accordance with 40 CFR Part 70.2 "Definitions- Major source(2)."

2.8 Major Source of Hazardous Air Pollutants: A stationary source that emits or has the potential to emit 10 tons per year or more of a single HAP listed in section 112(b) of the CAA, 25 tons per year or more of any combination of HAPs, or such lesser quantity as the U.S. EPA may establish by rule. Fugitive emissions of HAPs shall be considered in calculating emissions for all stationary sources. The definition of a major source of radionuclides shall be specified by rule by the U.S. EPA .

2.9 Part 70 Permit: An operating permit issued to a stationary source pursuant to an interim, partial or final Title V program approved by the U.S. EPA.

2.10 Potential to Emit: The maximum capacity of a stationary source to emit a regulated air pollutant based on its physical and operational design. Any physical or operational limitation on the capacity of the stationary 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 is federally enforceable.

2.11 Process Statement: An annual report on permitted emission units from an owner or operator of a stationary source certifying under penalty of perjury the following: throughputs of process materials; throughputs of materials stored; usage of materials; fuel usage; any available continuous emissions monitoring data; hours of operation; and any other information required by this rule or requested in writing by the District.

2.12 Regulated Air Pollutant: The following air pollutants are regulated:

A. Oxides of nitrogen and volatile organic compounds;

B. Any pollutant for which a national ambient air quality standard has been promulgated;

C. Any Class I or Class II ozone depleting substance subject to a standard promulgated under Title VI of the federal Clean Air Act;

D. Any pollutant that is subject to any standard promulgated under section 111 of the federal Clean Air Act; and

E. Any pollutant subject to a standard or requirement promulgated pursuant to section 112 of the federal Clean Air Act, including:

1. Any pollutant listed pursuant to section 112(r) (Prevention of Accidental Releases) shall be considered a regulated air pollutant upon promulgation of the list.

2. Any HAP subject to a standard or other requirement promulgated by the U.S. EPA pursuant to section 112(d) or adopted by the District pursuant to 112(g) and (j) shall be considered a regulated air pollutant for all sources or categories of sources: 1) upon promulgation of the standard or requirement, or 2) 18 months after the standard or requirement was scheduled to be promulgated pursuant to section 112(e)(3).

3. Any HAP subject to a District case-by-case emissions limitation determination for a new or modified source, prior to the U.S. EPA promulgation or scheduled promulgation of an emissions limitation shall be considered a regulated air pollutant when the determination is made pursuant to section 112(g)(2). In case-by-case emissions limitation determinations, the HAP shall be considered a regulated air pollutant only for the individual source for which the emissions limitation determination was made.

3.0 EMISSION LIMITATIONS

3.1 Unless the owner or operator has chosen to operate the stationary source under an alternative operational limit specified in section 6.1 below, no stationary source subject to this rule shall emit in every 12-month period more than the following quantities of emissions:

A. 50 percent of the major source thresholds for regulated air pollutants (excluding HAPs),

B. 5 tons per year of a single HAP,

C. 12.5 tons per year of any combination of HAPs, and

D. 50 percent of any lesser threshold for a single HAP as the U.S. EPA may establish by rule.

3.2 The APCO shall evaluate a stationary source's compliance with the emission limitations in section 3.1 above as part of the District's annual permit renewal process required by Health & Safety Code section 42301(e). In performing the evaluation, the APCO shall consider any annual process statement submitted pursuant to Section 5.0, Reporting Requirements. In the absence of valid continuous emission monitoring data or source test data, actual emissions shall be calculated using emissions factors approved by the U.S. EPA , CARB, or the APCO.

3.3 Unless the owner or operator has chosen to operate the stationary source under an alternative operational limit specified in section 6.1 below, the owner or operator of a stationary source subject to this rule shall obtain any necessary permits prior to commencing any physical or operational change or activity which will result in actual emissions that exceed the limits specified in section 3.1 above.

4.0 RECORDKEEPING REQUIREMENTS

Immediately after adoption of this rule, the owner or operator of a stationary source subject to this rule shall comply with any applicable recordkeeping requirements in this section. However, for a stationary source operating under an alternative operational limit, the owner or operator shall instead comply with the applicable recordkeeping and reporting requirements specified in Section 6.0, Alternative Operational Limit and Requirements. The recordkeeping requirements of this rule shall not replace any recordkeeping requirement

contained in an operating permit or in a District, State, or Federal rule or regulation.

4.1. A stationary source previously covered by the provisions in section 1.2 above shall comply with the applicable provisions of section 4.0 above and sections 5.0 and 6.0 below if the stationary source exceeds the quantities specified in section 1.2.A above.

4.2 The owner or operator of a stationary source subject to this rule shall keep and maintain records for each permitted emission unit or groups of permitted emission units[3] sufficient to determine actual emissions. Such information shall be summarized in a monthly log, maintained on site for five years, and be made available to District, CARB, or U.S. EPA staff upon request.

A. Coating/Solvent Emission Unit

The owner or operator of a stationary source subject to this rule that contains a coating/solvent emission unit or uses a coating, solvent, ink or adhesive shall keep and maintain the following records:

1. A current list of all coatings, solvents, inks and adhesives in use. This list shall include: information on the manufacturer, brand, product name or code, VOC content in grams per liter or pounds per gallon, HAPS content in grams per liter or pounds per gallon, or manufacturer's product specifications, material VOC content reports or laboratory analyses providing this information;

2. A description of any equipment used during and after coating/solvent application, including type, make and model; maximum design process rate or throughput; control device(s) type and description (if any); and a description of the coating/solvent application/drying method(s) employed;

3. A monthly log of the consumption of each solvent (including solvents used in clean-up and surface preparation), coating, ink and adhesive used; and

4. All purchase orders, invoices, and other documents to support information in the monthly log.

B. Organic Liquid Storage Unit

The owner or operator of a stationary source subject to this rule that contains a permitted organic liquid storage unit shall keep and maintain the following records:

1. A monthly log identifying the liquid stored and monthly throughput; and

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[3]In some cases it may be appropriate to keep records on groups of emission units which are connected in series. Examples are internal combustion engines in the oil fields with a common fuel line, or a series of paint spray booths with a common feed.

2. Information on the tank design and specifications including control equipment.

C. Combustion Emission Unit

The owner or operator of a stationary source subject to this rule that contains a combustion emission unit shall keep and maintain the following records:

1. Information on equipment type, make and model, maximum design process rate or maximum power input/output, minimum operating temperature (for thermal oxidizers) and capacity, control device(s) type and description (if any) and all source test information; and

2. A monthly log of hours of operation, fuel type, fuel usage, fuel heating value (for non-fossil fuels; in terms of BTU/lb or BTU/gal), percent sulfur for fuel oil and coal, and percent nitrogen for coal.

D. Emission Control Unit

The owner or operator of a stationary source subject to this rule that contains an emission control unit shall keep and maintain the following records:

1. Information on equipment type and description, make and model, and emission units served by the control unit;

2. Information on equipment design including where applicable: pollutant(s) controlled; control effectiveness; maximum design or rated capacity; inlet and outlet temperatures, and concentrations for each pollutant controlled; catalyst data (type, material, life, volume, space velocity, ammonia injection rate and temperature); baghouse data (design, cleaning method, fabric material, flow rate, air/cloth ratio); electrostatic precipitator data (number of fields, cleaning method, and power input); scrubber data (type, design, sorbent type, pressure drop); other design data as appropriate; all source test information; and

3. A monthly log of hours of operation including notation of any control equipment breakdowns, upsets, repairs, maintenance and any other deviations from design parameters.

E. General Emission Unit

The owner or operator of a stationary source subject to this rule that contains an emission unit not included in subsections A, B or C above shall keep and maintain the following records:

1. Information on the process and equipment including the following: equipment type, description, make and model; maximum design process rate or throughput; control device(s) type and description (if any);

2. Any additional information requested in writing by the APCO;

3. A monthly log of operating hours, each raw material used and its amount, each product produced and its production rate; and

4. Purchase orders, invoices, and other documents to support information in the monthly log.

5.0 REPORTING REQUIREMENTS

5.1 At the time of annual renewal of a permit to operate under Rule _____ (the District's general permitting rule), each owner or operator of a stationary source subject to this rule shall submit to the District a process statement. The statement shall be signed by the owner or operator and certify that the information provided is accurate and true.

5.2 For the purpose of determining compliance with this rule, this requirement shall not apply to stationary sources which emit in every 12-month period less than or equal to the following quantities:

A. For any regulated air pollutant (excluding HAPs),

1. 25 tons per year including a regulated air pollutant for which the District has a federal area designation of attainment, unclassified, transitional, or moderate nonattainment,

2. 15 tons per year for a regulated air pollutant for which the District has a federal area designation of serious nonattainment,

3. 6.25 tons per year for a regulated air pollutant for which the District has a federal area designation of severe nonattainment,

B. 2.5 tons per year of a single HAP,

C. 6.25 tons per year of any combination of HAPs, and

D. 25 percent of any lesser threshold for a single HAP as the U.S. EPA may establish by rule.

5.3 A stationary source previously covered by provisions in section 5.2 above shall comply with the provisions of section 5.1 above if the stationary source exceeds the quantities specified in section 5.2.

5.4 Any additional information requested by the APCO under section 5.1 above shall be submitted to the APCO within 30 days of the date of request.

6.0 ALTERNATIVE OPERATIONAL LIMIT AND REQUIREMENTS

[The District may propose additional alternative operational limits]

The owner or operator may operate the permitted emission units at a stationary source subject to this rule under any one alternative operational limit, provided that at least 90 percent of the stationary source's emissions in every 12-month period are associated with the operation(s) limited by the alternative operational limit.

6.1 Upon choosing to operate a stationary source subject to this rule under any one alternative operational limit, the owner or operator shall operate the stationary source in compliance with the alternative operational limit and comply with the specified recordkeeping and reporting requirements.

A. The owner or operator shall report within 24 hours to the APCO any exceedance of the alternative operational limit.

B. The owner or operator shall maintain all purchase orders, invoices, and other documents to support information required to be maintained in a monthly log. Records required under this section shall be maintained on site for five years and be made available to District or U.S. EPA staff upon request.

C. Gasoline Dispensing Facility Equipment with Phase I and II Vapor Recovery Systems

The owner or operator shall operate the gasoline dispensing equipment in compliance with the following requirements:

1. No more than 7,000,000 gallons of gasoline shall be dispensed in every 12-month period.

2. A monthly log of gallons of gasoline dispensed in the preceding month with a monthly calculation of the total gallons dispensed in the previous 12 months shall be kept on site.

3. A copy of the monthly log shall be submitted to the APCO at the time of annual permit renewal. The owner or operator shall certify that the log is accurate and true.

D. Degreasing or Solvent-Using Unit

The owner or operator shall operate the degreasing or solvent-using unit(s) in compliance with the following requirements:

1. a. If the solvents do not include methyl chloroform (1,1,1-trichloroethane), methylene chloride (dichloromethane), tetrachloroethylene (perchloroethylene), or trichloroethylene, no more than 5,400 gallons of any combination of solvent-containing materials and no more than 2,200 gallons of any one solvent-containing material

shall be used in every 12-month period,.

b. If the solvents include methyl chloroform (1,1,1-trichloroethane), methylene chloride (dichloromethane), tetrachloroethylene (perchloroethylene), or trichloroethylene, no more than 2,900 gallons of any combination of solvent-containing materials and no more than 1,200 gallons of any one solvent-containing material shall be used in every 12-month period.

2. A monthly log of amount and type of solvent used in the preceding month with a monthly calculation of the total gallons used in the previous 12 months shall be kept on site.

3. A copy of the monthly log shall be submitted to the APCO at the time of annual permit renewal. The owner or operator shall certify that the log is accurate and true.

E. Paint Spraying Unit[4]

The owner or operator shall operate the paint spraying unit(s) in compliance with the following requirements:

1. The total usage rate of all VOC-containing materials, including but not limited to, coatings, thinners, reducers, and cleanup solution shall not exceed _____ gallons in every 12-month period.

2. A monthly log of the gallons of VOC-containing materials used in the preceding month with a monthly calculation of the total gallons used in the previous 12 months shall be kept on site.

3. A copy of the monthly log shall be submitted to the APCO at the time of annual permit renewal. The owner or operator shall certify that the log is accurate and true.

F. Diesel-Fueled Emergency Standby Engine(s) with Output Less Than 1,000 Brake Horsepower

[Depending on the District's federal ozone attainment status, the District will adopt either subsection 1.a, 1.b, or 1.c below.]

The owner or operator shall operate the emergency standby engine(s) in compliance with the following requirements:

1. a. For a federal ozone area designation of attainment, unclassified, transitional, or moderate nonattainment, the emergency standby

[4]To be determined based on District SIP rules

engine(s) shall not operate more than 5,200 hours in every 12-month period and shall not use more than 265,000 gallons of diesel fuel in every 12-month period.

b. For a federal ozone nonattainment area classified as serious, the emergency standby engine(s) shall not operate more than 2,600 hours in every 12-month period and shall not use more than 133,000 gallons of diesel fuel in every 12-month period.

c. For a federal ozone nonattainment area classified as severe, the emergency standby engine(s) shall not operate more than 1,300 hours in 12-month period and shall not use more than 66,000 gallons of diesel fuel in every 12-month period.

2. A monthly log of hours of operation, gallons of fuel used, and a monthly calculation of the total hours operated and gallons of fuel used in the previous 12 months shall be kept on site.

3. A copy of the monthly log shall be submitted to the APCO at the time of annual permit renewal. The owner or operator shall certify that the log is accurate and true.

6.2 The owner or operator of a stationary source subject to this rule shall obtain any necessary permits prior to commencing any physical or operational change or activity which will result in an exceedance of an applicable operational limit specified in section 6.1 above.

7.0 VIOLATIONS

7.1 Failure to comply with any of the applicable provisions of this rule shall constitute a violation of this rule. Each day during which a violation of this rule occurs is a separate offense.

7.2 A stationary source subject to this rule shall be subject to applicable federal requirements for a major source, including Rule ____ (District Title V rule) when the conditions specified in either subsections A or B below, occur:

A. Commencing on the first day following every 12-month period in which the stationary source exceeds a limit specified in section 3.1 above and any applicable alternative operational limit specified in section 6.1, above, or

B. Commencing on the first day following every 12-month period in which the owner or operator can not demonstrate that the stationary source is in compliance with the limits in section 3.1 above or any applicable alternative operational limit specified in section 6.1 above.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

NOV 2 1994

Mr. Jason Grumet
Executive Director, Northeast States
for Coordinated Air Use Management
129 Portland Street
Boston, Massachusetts 02114

Dear Mr. Grumet:

This is in response to Mr. Michael Bradley's March 22, 1994 letter to Mary Nichols seeking clarification of the Federal enforceability of State's existing minor new source review (NSR) programs. It is my understanding that some of the NESCAUM States are interested in using their existing minor NSR programs to limit a source's potential to emit so as to allow sources to legally avoid being considered a major source for title V purposes.

In my November 3, 1993 memorandum entitled "Approaches to Creating Federally-Enforceable Emission Limits," I described approaches that States could use to limit a source's potential to emit for title V purposes. While a number of approaches are acceptable, the Environmental Protection Agency (EPA) has promoted the use of State operating permits programs approved under sections 110 and 112(l), pursuant to the criteria set forth in the June 28, 1989 Federal Register. Among other things, these criteria include an opportunity for public and EPA review and require that permit conditions be practically enforceable. Several States have followed EPA's recommendation and have either adopted these requirements or are in the process of doing so.

The Agency recognizes the use of other approaches as well. In response to your question, EPA's position is that minor NSR permits issued under programs that have already been approved into the State implementation plan (SIP) are federally enforceable. Thus, EPA allows the use of federally-enforceable minor NSR permits to limit a source's potential to emit provided that the scope of a State's program allows for this and that the minor NSR permits are in fact enforceable as a practical matter.

Because minor NSR programs are essentially preconstruction review programs for new sources and modifications to existing sources, minor NSR programs can generally be used to limit a

source's potential emissions when such limits are taken in conjunction with a preconstruction permit action. In addition, please note that the term "modification" generally encompasses both physical changes and changes in the method of operation at an existing source (see Clean Air Act section 111(a)(4)). Thus, the scope of some, though not all, minor NSR programs is broad enough to be used to also limit a source's potential to emit for nonconstruction-related events. This occurs where the modification component of State programs extends to both physical changes and changes in the method of operation. In these cases, where a voluntary reduction in the method of operation (e.g., limit in hours of operation or production rate) by itself is considered a modification for minor NSR permitting, a source may reduce its hours of operation or production rate and make such a change federally enforceable through limits in its minor NSR permit.

Some States' minor NSR programs are written so as to preclude a source from limiting its potential to emit absent an increase in emissions. There may be other limitations on the scope of these programs as well. Since there is considerable variation among State minor NSR programs, a review of any individual State program would be necessary to determine its ability to limit a source's potential to emit. It may be beneficial for States to contact the appropriate EPA Regional Office if there are questions about the scope of the SIP-approved minor NSR program.

Minor NSR programs have generally been used in the past to limit a source's potential to emit for criteria pollutants. There is a growing need for sources to limit their potential to emit for toxic pollutants as well. The EPA is currently considering ways in which a State may limit the potential to emit of toxic pollutants, including possible uses of existing minor NSR programs. I plan to keep you and others aware of our efforts in this regard.

You should also be aware that a recent court ruling has called into question the Federal enforceability of a State minor NSR permit that does not meet the public participation requirements of current EPA regulations despite SIP approval of the State's program [see United States v. Marine Shale Processors, No. 90-1240 (E.D. La.) (bench ruling), June 15, 1994]. In that case involving extensive alleged violations of the permit terms, the court held that EPA could not enforce the terms of the minor NSR permit. The court subsequently ruled that the company could not rely on the permit to limit its potential to emit, and thus was liable for having failed to obtain a major

NSR permit. The outcome of this case suggests that States should proceed cautiously in relying on minor NSR programs to limit potential to emit where the program does not actually provide public participation.

In summary, EPA has provided guidance on approaches that are available to limit a source's potential to emit. The Agency recommends approaches that meet the criteria set forth in the June 28, 1989 Federal Register. Many States are taking action to adopt such programs. With respect to minor NSR permits, EPA believes that permits conditions issued in accordance with existing State minor NSR programs that have been approved into the SIP, and which are enforceable as a practical matter, are federally enforceable and can be used to limit potential to emit. Caution is advised, however, with respect to permits that do not meet procedural requirements. These programs are primarily preconstruction review programs although in many cases they can also limit a source's potential to emit in conjunction with operational changes.

As you have noted, title V issues are complicated and resource intensive. In order for the title V program to be successfully implemented, it is important that States and EPA work cooperatively in developing operating permits programs. Your comments and recommendations on program development issues are welcome.

We appreciate this opportunity to be of service and trust that this information will be helpful to you.

Sincerely,

John S. Seitz
Director
Office of Air Quality Planning
and Standards

cc: Air Division Director, Regions I-X

Attachment 4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 25 1995

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

SUBJECT: Guidance on Enforceability Requirements for Limiting Potential to Emit through SIP and §112 Rules and General Permits

FROM: Kathie A. Stein, Director
Air Enforcement Division

TO: Director, Air, Pesticides and Toxics Management Division, Regions I and IV
Director, Air and Waste Management Division, Region II
Director, Air, Radiation and Toxics Division, Region III
Director, Air and Radiation Division, Region V
Director, Air, Pesticides and Toxics Division, Region VI
Director, Air and Toxics Division, Regions VII, VIII, IX, and X

Attached is a guidance document developed over the past year by the former Stationary Source Compliance Division in coordination with the Air Enforcement Division, Office of Air Quality Planning and Standards, OAR's Office of Policy Analysis and Review, and the Office of General Counsel, as well as with significant input from several Regions.

A number of permitting authorities have begun discussions with or have submitted programs for review by EPA that would provide alternative mechanisms for limiting potential to emit. Several authorities have submitted SIP rules and at least one State has been developing a State general permit approach. We believe that this guidance is important to assist the EPA Regions as well as States in approving and developing such approaches.

For additional information regarding this guidance, please contact me or Clara Poffenberger of my staff at (202) 564-8709.

cc: John Rasnic, Director
Manufacturing, Energy, and Transportation Division
Office of Compliance

Air Branch Chiefs, Regions I - X

JAN 25 1995

Enforceability Requirements for Limiting Potential to Emit Through SIP and §112 Rules and General Permits

Introduction

As several EPA guidances describe, there are several mechanisms available for sources to limit potential to emit. EPA guidances have also described the importance of practical enforceability of the means used to limit potential to emit. This guidance is intended to provide additional guidance on practical enforceability for such limits. We provide references for guidances on practical enforceability for permits and rules in general and provide guidance in this document for application of the same principles to "limitations established by rule or general permit," as described in the guidance document issued January 25, 1995, entitled "Options for Limiting Potential to Emit (PTE) of a Stationary Source under section 112 and Title V of the Clean Air Act (Act)." The description is as follows:

> Limitations established by rules. For less complex plant sites, and for source categories involving relatively few operations that are similar in nature, case-by-case permitting may not be the most administratively efficient approach to establishing federally enforceable restrictions. One approach that has been used is to establish a general rule which creates federally enforceable restrictions at one time for many sources (these rules have been referred to as "prohibitory" or "exclusionary" rules[1]). The concept of exclusionary rules is described in detail in the November 3, 1993 memorandum ["Approaches to Creating Federally Enforceable Emissions Limits," from John S. Seitz]. A specific suggested approach for VOC limits by rule was described in EPA's memorandum dated October 15, 1993 entitled "Guidance for State Rules for Optional Federally-Enforceable Emissions Limits Based Upon Volatile Organic Compound (VOC) Use." An example of such an exclusionary rule is a model rule developed for use in California. (The California model rule is attached, along with a discussion of its applicability to other situations--see Attachment 2). Exclusionary rules are included in a State's SIP or 112 program and generally become effective upon approval by the EPA.

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[1] The EPA prefers the term "exclusionary rule" in that this phrase is a less ambiguous description of the overall purpose of these rules.

General permits. A concept similar to the exclusionary rule is the establishment of a general permit for a given source type. A general permit is a single permit that establishes terms and conditions that must be complied with by all sources subject to that permit. The establishment of a general permit could provide for emission limitations in a one-time permitting process, and thus avoid the need to issue separate permits for each source. Although this concept is generally thought of as an element of Title V permit programs, there is no reason that a State or local agency could not submit a general permit program as a SIP submittal aimed at creating synthetic minor sources. Additionally, FESOP [Federally Enforceable State Operating Permit, usually referring to Title I State Operating Permit Programs approved under the criteria established by EPA in the June 28, 1989 Federal Register notice, 54 FR 27274] programs can include general permits as an element of the FESOP program being approved into the SIP. The advantage of a SIP general permit, when compared to an exclusionary rule, is that upon approval by the EPA of the State's general permit program, a general permit could be written for an additional source type without triggering the need for the formal SIP revision process. (January 25, 1995, Seitz and Van Heuvelen memorandum, page 4.)

SIP or § 112 Rules

Source-category standards approved in the SIP or under 112, if enforceable as a practical matter, can be used as federally enforceable limits on potential to emit. Such provisions require public participation and EPA review. Once a specific source qualifies under the applicability requirements of the source-category rule, additional public participation is not required to make the limits federally enforceable as a matter of legal sufficiency since the rule itself underwent public participation and EPA review. The rule must still be enforceable as a practical matter in order to be considered federally enforceable. A source that violates this type of rule limiting potential to emit below major source thresholds or is later determined not to qualify for coverage under the rule, could be subject to enforcement action for violation of the rule and for constructing or operating without a proper permit (a part 70 permit, a New Source Review permit, or operating without meeting §112 requirements, or any combination thereof).

General Permits

The Title V regulations set out provisions for general permits covering numerous similar sources. The primary purpose of general permits is to provide a permitting alternative where

the normal permitting process would be overly burdensome, such as for area sources under section 112. General permits may be issued to cover any category of numerous similar sources, including major sources, provided that such sources meet certain criteria laid out in 40 CFR part 70. Sources may be issued general permits strictly for the purpose of avoiding classification as a major source. In other words, general permits may be used to limit the potential to emit for numerous similar sources. However, general permits must also meet both legal and practical federal enforceability requirements.

With respect to legal sufficiency, the operating permit regulations provide that once the general permit has been issued after opportunity for public participation and EPA and affected State review, the permitting authority may grant or deny a source's request to be covered by a general permit without further public participation or EPA or affected State review. The action of granting or denying the source's request is not subject to judicial review. A general permit does not carry a permit shield. A source may be subject to enforcement action for operating without a part 70 permit if the source is later determined not to qualify for coverage under the general permit. Sources covered by general permits must comply with all part 70 requirements.

State SIP or 112(l) General Permits

Another mechanism available to limit potential to emit is a general permit program approved into the SIP or under section 112(l), the hazardous air pollutant program authority. This mechanism allows permitting authorities to issue and revise general permits consistent with SIP or 112(l) program requirements without going through the SIP or 112(l) approval process for each general permit or revision of a general permit. The program is also separate from title V, like title I state operating permits, and issuance and revisions of the permits are not required to comply with title V procedures.

Once a program is approved, issuing and revising general permits should be significantly less burdensome and time-consuming for State legislative and rulemaking authorities. The EPA review should also be less burdensome and time-consuming. After a program is approved, permitting authorities have the flexibility to submit and issue general permits as needed rather than submitting them all at once as part of a SIP submittal. Given the reduced procedural burden, permitting authorities should be able to issue general permits to small groups or categories or sources rather than attempt to cover broad categories with a generic rule. We anticipate that specific permit requirements for general permits may be readily developed with the assistance of interested industry groups.

The State general permit approach may allow sources to meet the federal enforceability requirements more easily than other approaches. However, to use this approach, States must have a federally enforceable program that provides the State the authority to issue such permits; to accomplish this, EPA must approve the program into the SIP or pursuant to section 112(l) of the Clean Air Act.

Enforceability Principles

In 1989, in response to challenges from the Chemical Manufacturers Association and other industry groups, EPA reiterated its position that controls and limitations used to limit a source's potential to emit must be federally enforceable. See 54 FR 27274 (June 28, 1989). Federally enforceable limits can be established by Clean Air Act programs such as NSPS, NESHAPs, MACTs, and SIP requirements. However, source-specific limits are generally set forth in permits. Generally, to be considered federally enforceable, the permitting program must be approved by EPA into the SIP and include provisions for public participation. In addition, permit terms and conditions must be practicably enforceable to be considered federally enforceable. EPA provided specific guidance on federally enforceable permit conditions in a June 13, 1989 policy memo "Limiting Potential to Emit in New Source Permitting" from John Seitz and in the June 28, 1989 Federal Register notice (54 FR 27274). Additional guidance can also be found in United States v. Louisiana Pacific, 682 F. Supp. 1122 (D. Colo. 1987), 682 F. Supp 1141 (D. Colo. 1988), which led to these guidance statements and a number of other memoranda covering practicable enforceability as it relates to rolling averages, short-term averages, and emission caps. See "Use of Long Term Rolling Averages to Limit Potential to Emit," from John B. Rasnic to David Kee, February 24, 1992; "Limiting Potential to Emit" from Mamie Miller to George Czerniak, August 5, 1992; "Policy Determination on Limiting Potential to Emit for Koch Refining Company's Clean Fuels Project", from John B. Rasnic to David Kee, March 13, 1992; and "3M Tape Manufacturing Division Plant, St. Paul, Minnesota" from John B. Rasnic to David Kee, July 14, 1992.

In 1987, EPA laid out enforceability criteria that SIP rules must meet. See "Review of State Implementation Plans and Revisions for Enforceability and Legal Sufficiency" from Michael Alushin, Alan Eckert, and John Seitz, September 3, 1987 (1987 SIP memo). The criteria include clear statements as to applicability, specificity as to the standard that must be met, explicit statements of the compliance time frames (e.g. hourly, daily, monthly, or 12-month averages, etc.), that the time frame and method of compliance employed must be sufficient to protect the standard involved, recordkeeping requirements must be specified, and equivalency provisions must meet certain requirements.

Based on these precedents, this guidance describes six enforceability criteria which a rule or a general permit must meet to make limits enforceable as a practical matter. In general, practical enforceability for a source-specific permit term means that the provision must specify (1) a technically accurate limitation and the portions of the source subject to the limitation; (2) the time period for the limitation (hourly, daily, monthly, annually); and (3) the method to determine compliance including appropriate monitoring, recordkeeping and reporting. For rules and general permits that apply to categories of sources, practical enforceability additionally requires that the provision (4) identify the categories of sources that are covered by the rule; (5) where coverage is optional, provide for notice to the permitting authority of the source's election to be covered by the rule; and (6) recognize the enforcement consequences relevant to the rule.

This guidance will address requirements (4) and (5) first as they are concepts that are unique to rules and general permits.

A. Specific Applicability

Rules and general permits designed to limit potential to emit must be specific as to the emission units or sources covered by the rule or permit. In other words, the rule or permit must clearly identify the category(ies) of sources that qualify for the rule's coverage. The rule must apply to categories of sources that are defined specifically or narrowly enough so that specific limits and compliance monitoring techniques can be identified and achieved by all sources in the categories defined.

A rule or general permit that covers a homogeneous group of sources should allow standards to be set that limit potential to emit and provide the specific monitoring requirements. (Monitoring is more fully addressed in section D.) The State can allow for generic control efficiencies where technically sound and appropriate, depending on the extent of the application and ability to monitor compliance with resultant emission limits. Similarly, specific and narrow applicability may allow generic limits on material usage or limits on hours of operation to be sufficient. For example, a rule or general permit that applies to fossil-fuel fired boilers of a certain size may allow for limits on material usage, such as fuel-type and quantity. A rule or general permit that applies only to standby diesel generators or emergency generators may allow restrictions on hours of operation to limit potential to emit. The necessary compliance terms (i.e., monitoring or recordkeeping) associated with any of these limits, such as with hours of operation, can readily be specified in the rule or the general permit itself.

General permits under Title V are assumed to include this

enforceability principle because the Part 70 regulations set out specific criteria that States should consider in developing their general permit provisions (See 57 FR 32278). These factors include requirements that

> "categories of sources covered by general permits should be generally homogenous in terms of operations, processes, and emissions. All sources in the category should have essentially similar operations or processes and emit pollutants with similar characteristics."

Another factor stated is "sources should be subject to the same or substantially similar requirements governing operation, emissions, monitoring, reporting, or recordkeeping." Examples of source categories appropriate for general permits include: degreasers, dry cleaners, small heating systems, sheet fed printers, and VOC storage tanks (see 57 FR 32278).

B. Reporting or Notice to Permitting Authority

The rule or general permit should provide specific reporting requirements as part of the compliance method. Although the compliance method for all sources must include recordkeeping requirements, the permitting authority may make a determination that reporting requirements for small sources would provide minimal additional compliance assurance. Where ongoing reporting requirements are determined not to be reasonable for a category of sources, the rule or general permit should still provide that the source notify the permitting authority of its coverage by the rule or the permit. In the limited situation where all the sources described in a source category are required to comply with the all of the provisions of a rule or general permit, notice is not needed. However, where there are no reporting requirements and no opt-in provisions, the permitting authority must provide the public with the names and locations of sources subject to the rule or permit.

For Title V general permits, Part 70 requires sources to submit an application for a general permit which must be approved or disapproved by the permitting authority. For SIP or §112 rules and SIP or §112 general permits, in response to receiving the notice or application, the permitting authority may issue an individual permit, or alternatively, a letter or certification. The permitting authority may also determine initially whether it will issue a response for each individual application or notice, and may initially specify a reasonable time period after which a source that has submitted an application or notice will be deemed to be authorized to operate under the general permit or SIP or §112 rule.

C. Specific Technically Accurate Limits

The rule or general permit issued pursuant to the SIP or §112 must specify technically accurate limits on the potential to emit. The rule or general permit must clearly specify the limits that apply, and include the specific associated compliance monitoring. (The compliance monitoring requirements are discussed further in the next section.) The standards or limits must be technically specific and accurate to limit potential to emit, identifying any allowed deviations.

The 1987 policy on SIP enforceability states that limitations "must be sufficiently specific so that a source is fairly on notice as to the standard it must meet." For example, "alternative equivalent technique" provisions should not be approved without clarification concerning the time period over which equivalency is measured as well as whether the equivalency applies on a per source or per line basis or is facility-wide.

Further, for potential to emit limitations, the standards set must be technically sufficient to provide assurance to EPA and the public that they actually represent a limitation on the potential to emit for the category of sources identified. Any presumption for control efficiency must be technically accurate and the rule must provide the specific parameters as enforceable limits to assure that the control efficiency will be met. For example, rules setting presumptive efficiencies for incineration controls applied to a specific or broad category must state the operating temperature limits or range, the air flow, or any other parameters that may affect the efficiency on which the presumptive efficiency is based. Similarly, material usage limits such as fuel limits, as stated above, require specifying the type of fuel and may require specifying other operating parameters.

A rule that allows sources to submit the specific parameters and associated limits to be monitored may not be enforceable because the rule itself does not set specific technical limits. The submission of these voluntarily accepted limits on parameters or monitoring requirements would need to be federally enforceable. Absent a source-specific permit and appropriate review and public participation of the limits, such a rule is not consistent with the EPA's enforceability principles.

D. Specific Compliance Monitoring

The rule must specify the methods to determine compliance. Specifically, the rule must state the monitoring requirements, recordkeeping requirements, reporting requirements, and test methods as appropriate for each potential to emit limitation; and clarify which methods are used for making a direct determination of compliance with the potential to emit limitations.

"Monitoring" refers to many different types of data collection, including continuous emission or opacity monitoring, and measurements of various parameters of process or control devices (e.g. temperature, pressure drop, fuel usage) and recordkeeping of parameters that have been limited, such as hours of operation, production levels, or raw material usage. Without a verifiable plantwide emission limit, verifiable emission limits must be assigned to each unit or group of units subject to the rule or general permit. Where monitoring cannot be used to determine emissions directly, limits on appropriate operating parameters must be established for the units or source, and monitoring must verify compliance with those limits. The monitoring must be sufficient to yield data from the relevant time period that is representative of the source's compliance with the standard or limit. Continuous emissions monitoring, especially in the case of smaller sources, is not required.

E. Practicably Enforceable Averaging Times

The averaging time for all limits must be practicably enforceable. In other words, the averaging time period must readily allow for determination of compliance. EPA policy expresses a preference toward short term limits, generally daily but not to exceed one month. However, EPA policy allows for rolling limits not to exceed 12 months or 365 days where the permitting authority finds that the limit provides an assurance that compliance can be readily determined and verified. See June 13, 1989 "Guidance on Limiting Potential to Emit," February 24, 1992 Memorandum "Use of Long Term Rolling Averages to Limit Potential to Emit" from John Rasnic to David Kee, and March 13, 1992 "Policy Determination on Limiting Potential to Emit for Koch Refining Company's Clean Fuels Project" from John B. Rasnic to David Kee, stating that determinations to allow an annual rolling average versus a shorter term limit must be made on a case by case basis. Various factors weigh in favor of allowing a long term rolling average, such as historically unpredictable variations in emissions. Other factors may weigh in favor of a shorter term limit, such as the inability to set interim limits during the first year. The permitting agency must make a determination as to what monitoring and averaging period is warranted for the particular source-category in light of how close the allowable emissions would be to the applicability threshold.

F. Clearly Recognized Enforcement

Violations of limits imposed by the rule or general permit that limit potential to emit constitute violations of major source requirements. In other words, the source would be violating a "synthetic minor" requirement which may result in the source being treated as a major source under Titles I and V. The 1989 Federal Register Notice provides for separate enforcement

and permitting treatment depending on whether the source subsequently chooses to become major or remain minor. Thus, violations of the rule or general permit or violation of the specific conditions of the rule or general permit subjects the source to potential enforcement under the Clean Air Act and state law. The operating permit rule states that notwithstanding the shield provisions of part 70, the source subject to a general permit may be subject to enforcement action for operating without a part 70 permit if the source is later determined not to qualify for the conditions and terms of the general permit. Moreover, violation of any of the conditions of the rule or general permit may result in a different determination of the source's potential to emit and thus may subject the source to major source requirements and to enforcement action for failure to comply with major source requirements from the initial determination.

Rule Requirements for State General Permit Programs

As discussed above, general permit programs must be submitted to EPA for approval under SIP authority or under section 112(l), or both, depending on its particular pollutant application. SIP and 112(l) approval and rulemaking procedures must be met, including public notice and comment. The specific application of the enforceability principles for establishing State SIP or §112(l) general permit programs require that the rule establishing the program set out these principles as rule requirements. In other words, these principles must be specific rule requirements to be met by each general permit.

The rule establishing the program must require that (1) general permits apply to a specific and narrow category of sources; (2) sources electing coverage under general permits, where coverage is not mandatory, provide notice or reporting to the permitting authority; (3) general permits provide specific and technically accurate (verifiable) limits that restrict the potential to emit; (4) general permits contain specific compliance monitoring requirements; (5) limits in general permits are established based on practicably enforceable averaging times; and (6) violations of the permit are considered violations of the State and federal requirements and may result in the source being subject to major source requirements.

In addition, since the rule establishing the program does not provide the specific standards to be met by the source, each general permit, but not each application under each general permit, must be issued pursuant to public and EPA notice and comment. The 1989 Federal Register notice covering enforceability of operating permits requires that SIP operating permit programs issue permits pursuant to public and EPA notice and comment. Title V requires that permits, including general permits, be issued subject to EPA objection.

Section B

General Clean Air Act Stationary Source Policies and Guidance

Section B Document 25

Memorandum of Understanding Between the U.S. Environmental Protection Agency and the U.S. Department of Energy concerning the Clean Air Act Emission Standards for Radionuclides, 40 CFR Part 61 Including Subparts H, I, Q & T

04/05/95

November 21, 2001

(AR-18J)

Robert F. Hodanbosi, Chief
Division of Air Pollution Control
Ohio Environmental Protection Agency
122 South Front Street
P. O. Box 1049
Columbus, Ohio 43266-1049

Dear Mr. Hodanbosi:

This letter is to inform you of the action required by the Ohio Environmental Protection Agency (OEPA) to avoid an April 1, 2002, United States Environmental Protection Agency (USEPA) publication of a notice of program deficiency for the Ohio Title V operating permit program. As you know, we published a Notice of Comment Period on operating permit program deficiencies in the Federal Register on December 11, 2000. Pursuant to the settlement agreement discussed in that notice, USEPA will publish notices of program deficiencies for individual operating permit programs, based on the issues raised that we agree are deficiencies. In that notice, USEPA committed to publishing these notice of program deficiencies for fully approved programs, such as Ohio's program, by April 1, 2002.

USEPA received comments concerning the Ohio's Title V program on or before the March 12, 2001, deadline. We have reviewed these comments and, based on our preliminary review, have identified the issues on which Ohio must have taken significant action to avoid Title V notice of program deficiency on April 1, 2002. These issues include;

1. The language of Ohio Administrative Code (OAC) 3745-77-07(A)(3)(c)(ii) and (iii) limits the reporting of deviations to those which can be detected by the compliance method required by the permit, in violation of the Credible Evidence rule.
2. The Title V permits exempt the reporting of the malfunctions under OAC 3745-15-06(B) from the six-month monitoring reports required by 40 C.F.R. § 70.6(a)(3)(iii).
3. The six-month monitoring reports do not require permitees to submit reports of all required monitoring as required by 40 C.F.R. § 70.6(a)(3)(iii).
4. All of initial Title V permits have not been issued.
5. Title V permits must contain monitoring, recordkeeping, and reporting requirements sufficient to assure compliance.
6. Applicability of 112(r) and Title IV in the Title V permit.

7. Identification of origin and authority of each permit term and condition in the Title V permit.
8. The statements of basis must conform to the guidelines we will provide to you under separate cover.

We enclosed a more detailed discussion of these issues with this letter.

We have been working with your staff concerning these comments and are pleased with Ohio's intent to correct many of these potential deficiencies within a reasonable timeframe. We would like for you to provide us with confirmation of the issues that you are planning to resolve, along with timeframes for these resolutions, so that we will be better prepared to work with you to achieve your goal. Please be aware USEPA reserves the right established in the Act and 40 C.F.R. § 70.10 to publish a notice of program deficiency for any or all of these deficiencies at a later date if Ohio fails to address these deficiencies adequately and expeditiously. USEPA also reserves the right to publish subsequent notice of program deficiencies concerning other deficiencies in the Ohio Title V program that were not identified during the comment period ending March 12, 2001.

We look forward to continued cooperation between our offices on Title V program issues. If you have any questions, please contact Genevieve Damico or Kaushal Gupta, of my staff, at (312) 353-4761 and (312) 886-6803 respectively.

Sincerely yours,

/s/

Bharat Mathur, Director
Air and Radiation Division

Enclosure

Enclosure

Issues Concerning Deficiencies in the Ohio Title V Operating Permits Program

The language of Ohio Administrative Code (OAC) 3745-77-07(A)(3)(c)(ii) and (iii) limits the reporting of deviations to those which can be detected by the compliance method required by the permit.

OAC 3745-77-07(A)(3)(c)(ii) and (iii) states:

> (ii) That each report submitted under paragraph (A)(3)(c)(i) of this rule shall clearly identify any deviations from permit requirements since the previous report that have been detected by the compliance method required under the permit and any deviations from the monitoring, recordkeeping, and reporting requirements under the permit;
>
> (iii) That each permit shall require prompt reporting of deviations from federally enforceable permit requirements that have been detected by the compliance method required under the permit, including deviations attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Verbal reports under this paragraph shall be submitted to the director as soon as practicable, consistent with diligent verification and certification, but in no case later than three business days after discovery of the deviation, with a follow up written report within thirty days after such discovery.

The underlined portions of the language demonstrates that Ohio's rules do not require permittees to consider all credible evidence when the permittee reports deviations from the permit requirements. Ohio must remove this language from OAC 3745-77-07(A)(3)(c)(ii) and (iii).

The Title V permits exempt the reporting of the malfunctions under OAC 3745-15-06(B) from the six-month monitoring reports required by 40 C.F.R. § 70.6(a)(3)(iii).

Ohio's permits provide that quarterly reports satisfy the requirements pertaining to prompt reporting of all deviations (Part I A.1.c.ii). For this reason, the quarterly reports must meet the criteria for deviation reports. Both 40 C.F.R. § 70.6(a)(3)(iii)(B) and OAC 3745-77-07(A)(3)(c)(iii) require permittees to report promptly deviations from permit requirements. Yet, Part I.A.1.c.ii of the Ohio Title V permits specifically exclude from the quarterly reporting requirement deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, a part of the Ohio State Implementation Plan. The reporting aspects of the Ohio SIP, OAC 3745-15-06, do not alter the Title V requirement to report all deviations, including malfunctions, in the Title V quarterly report. Ohio must revise Part I A.1.c.ii of the Title V permits to no longer exclude the reporting of deviations resulting from malfunctions in the quarterly deviation reports. OEPA may choose to require that the permittee simply reference the malfunction report required by OAC 3745-15-06 by requiring a similar report to Section D of USEPA's Part 71 six-month report form.

The six-month monitoring reports do not require permitees to submit reports of any required monitoring as required by 40 C.F.R. § 70.6(a)(3)(iii).
Ohio's permits provide that quarterly reports satisfy the six month reporting requirements(Part I A.1.c.ii). For this reason, the quarterly reports must meet the same criteria as the six-month reports. Both 40 C.F.R. § 70.6(a)(3)(iii) and OAC 3745-77-07(A)(3)(c)(i) require that the permittee submit a report of the results of all required monitoring. Ohio's quarterly reports only include a compilation of the deviations being reported by the permittee. This does not satisfy the requirement to submit a report of any required monitoring. Ohio may choose to resolve this issue by requiring permittees to submit reports similar to those required by Section C of USEPA's Part 71 six-month report form.

Furthermore, these same rules require that all applicable reporting requirements must include a semiannual (or more frequent) reporting requirement. The rule allows no exceptions. Therefore, all federally enforceable reporting requirements in a Title V permit must require at least semiannual submission of the reports. Some of Ohio's Title V permits currently require only annual submission of certain reports; Ohio must revise these permits to submit reports at least semiannually.

All of the Title V permits have not been issued.
Section 503(c) of the Clean Air Act clearly requires states to issue all of the original Title V permits within 3 years of program approval. We do understand that there are many reasons why Ohio was unable to complete the issuance of these permits within the required 3-year timeframe. However, because the success of this program is dependant on the issuance of the Title V permits, Ohio must develop by March 2002 a schedule for permit issuance, including milestones, to ensure issuance of all outstanding initial permits no later than December 1, 2003. Pamela Blakley provided an example of a permit issuance schedule in an e-mail on November 7, 2001.

Title V permits must contain monitoring, recordkeeping, and reporting requirements sufficient to assure compliance.

A. Title V permits contain monitoring and recordkeeping conditions on the state-only enforceable side when those conditions should be made federally enforceable.

Some Title V permits incorrectly make monitoring and recordkeeping provisions enforceable only by the state when those provisions are federally enforceable. Because a federal rule, 40 C.F.R. § 70.6(a)(3)(i)(B), requires the permit to contain all monitoring and recordkeeping necessary to assure compliance, such monitoring and recordkeeping must be on the federally enforceable side of the permit.

One example of this problem comes from the draft Title V permit for Cleveland Electric Illuminating Avon Lake Power Plant (facility ID 0247030013, issued January 30, 2000). The permit

requires the source to operate and maintain a temperature monitor in order to measure the temperature of gases entering an electrostatic precipitator. Because the temperature of these inlet gases will indicate whether the source is complying with federally enforceable emission limits in the permit, the requirement to operate and maintain the temperature monitor also is federally enforceable. However, the requirement as written in the draft permit is currently enforceable only by the state.

In another example, the same permit contains a state-only requirement for the source to maintain a logbook for a federally required continuous monitoring system. Such a requirement should be federally enforceable, even though there may already be federally enforceable requirements sufficient to ensure proper operation of the monitoring system. Requirements that will ensure the proper operation of federally required monitoring systems are part of the underlying requirements, and therefore are federally enforceable.

B. Title V permits must contain monitoring, recordkeeping, and reporting requirements sufficient to assure compliance with all applicable limits. The permitting authority must write these requirements in sufficient detail to allow no room for interpretation or ambiguity in meaning.

According to 40 C.F.R. § 70.6(c)(1), Title V permits must contain monitoring, recordkeeping, and reporting requirements sufficient to assure compliance with the terms and conditions of the permit. These requirements must involve the best compliance methods practicable, taking into consideration the source's compliance history, likelihood of violating the permit, and feasibility of the methods.

Ohio's Title V permits currently rely too heavily on AP-42 emission factors. These emission factors were not meant to be a basis of compliance with part 70. They are a last resort in compliance assurance (and are not a viable option at all when their reliability ratings are low). In most instances in which AP-42 emission factors are used, more reliable compliance methods are available. The permitting authority need not impose onerous compliance assurance requirements, but it cannot allow sources to use emission factors as an escape from monitoring, recordkeeping, and reporting activities.

In addition to implementing appropriate compliance methods, the monitoring, recordkeeping, and reporting requirements must be written in sufficient detail to allow no room for interpretation or ambiguity in meaning. Requirements that are imprecise or unclear make compliance assurance impossible.

For example, some Title V permits require monitoring devices to be

"installed, calibrated, operated, and maintained in accordance with the manufacturer's specifications," without explaining in detail the steps in these processes or the manufacturer's specifications. These steps must be explained in detail in order for such a requirement to have any meaning. The description of plant activities need not be exhaustive, but they must be specified in the permit if they would significantly affect the source's ability to comply. Leaving the source to follow "manufacturer's specifications" does not help direct the source toward compliance. In some instances, manufacturer's specifications may not even exist.

Many Title V permits contain ambiguous phrases, such as "if necessary." For example: "If necessary, the permittee shall maintain monthly records ...." The phrase "if necessary" should be removed altogether; the permit should specify exactly what *is* necessary. In this example, the permit should either precisely explain the situation that would necessitate monthly records, or simply require monthly records at all times. Ambiguous language hampers the source in its duty to independently assure compliance, and leaves legal requirements open to interpretation.

C. Title V permits do not require the submission of an emission control action plan until 60 days after final issuance of the permit, in violation of OAC 3745-25. Although emission control action plans may no longer be critical due to improvements in air quality, Ohio should resolve the deficiency by changing the permits to comply with the rule or by changing the rule itself.

Applicability of 112(r) and Title IV in the Title V permit.
We understand from a October 16, 2001, e-mail from Tom Rigo to staff, that OEPA is immediately making changes to the Title V permit to state applicability to 112(r) and Title IV. We are appreciative of this effort and look forward to the timely incorporation of this language in the Title V permits.

Identification of origin and authority of each permit term and condition in the Title V permit.
40 C.F.R. § 70.6 (a)(1)(i) requires that the Title V permit state the origin of and authority for each term and condition in the permit. Ohio's permits do list the origin and authority on an emission unit basis. It is clear that part 70 and the OAC envision that the origin and authority would be listed on a term and condition basis. For this reason we would like confirmation that OEPA is planning on revising the Title V permit format to include the origin of and authority for each term and condition.

The statements of basis must conform to the guidelines we will provide to you under separate cover.
40 C.F.R. § 70.7(a)(5) requires that each draft permit must be accompanied by a statement that sets forth the legal and factual basis for the draft permit

conditions. Although we recognize that there is little information available to judge the adequacy of a statement of basis besides this requirement, we concur with the comments made by the commentors alleging that Ohio's statements of basis do not meet the intent of part 70. We are, therefore, committing to provide OEPA with some guidelines that will be useful in meeting the intent of part 70. OEPA must follow these guidelines in preparing all future statements of basis to resolve this issue.

BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF SCHERER STEAM-ELECTRIC GENERATING PLANT JULIETTE, GEORGIA PERMIT NO. 4911-207-0008-V-03-0 HAMMOND STEAM-ELECTRIC GENERATING PLANT COOSA, GEORGIA PERMIT NO. 4911-115-0003-V-03-0 WANSLEY STEAM-ELECTRIC GENERATING PLANT CARROLLTON, GEORGIA PERMIT NO. 4911-149-0001-V-03-0 KRAFT STEAM-ELECTRIC GENERATING PLANT PORT WENTWORTH, GEORGIA PERMIT NO. 4911-051-0006-V-03-0 MCINTOSH STEAM-ELECTRIC GENERATING PLANT RINCON, GEORGIA PERMIT NO. 4911-103-0003-V-03-0 ISSUED BY THE GEORGIA ENVIRONMENTAL PROTECTION DIVISION	ORDER RESPONDING TO PETITIONERS' REQUESTS THAT THE ADMINISTRATOR OBJECT TO ISSUANCE OF STATE OPERATING PERMITS PETITION NOS. IV-2012-1, IV-2012-2 IV-2012-3, IV-2012-4 AND IV-2012-5

ORDER GRANTING IN PART AND DENYING IN PART FIVE PETITIONS FOR OBJECTION TO PERMITS

I. INTRODUCTION

This Order responds to issues raised in five related petitions submitted to the U.S. Environmental Protection Agency by GreenLaw on behalf of the Sierra Club and several other environmental organizations[1] (the Petitioners) pursuant to Section 505(b)(2) of the Clean Air Act ("CAA" or "Act"), 42 United States Code (U.S.C.) § 7661d(b)(2). The petitions seek the EPA's objection to operating permits issued by the Georgia Environmental Protection Division (Georgia EPD) to Georgia Power/Southern Company for five existing coal-fired electricity and steam generating plants located in the state of Georgia. Petition IV-2012-1, received on June 13, 2012, addresses the operating permit for the Scherer Steam-Electric Generating Plant (Plant Scherer). Petition IV-2012-2, received by the EPA on June 15, 2012, addresses the operating permit for the Hammond Steam-Electric Generating Plant (Plant

[1] Southern Alliance for Clean Energy, Fall-line Alliance for a Clean Environment, and Ogeechee Riverkeeper joined the Sierra Club in the Plant Wansley Petition (Petition No. IV-2012-3). Southern Alliance for Clean Energy also joined Sierra Club in the Plant Kraft Petition (Petition No. IV-2012-4).

Hammond). Petition IV-2012-3, received on September 5, 2012, addresses the operating permit for Wansley Steam-Electric Generating Plant (Plant Wansley). Petition IV-2012-4, received on October 23, 2012, addresses the operating permit for Kraft Steam-Electric Generating Plant (Plant Kraft). Finally, Petition IV-2012-5, received on November 13, 2012, addresses the operating permit for McIntosh Steam-Electric Generating Plant (Plant McIntosh). These permits are state operating permits issued by Georgia EPD pursuant to title V of the CAA, CAA §§ 501-507, 42 U.S.C. §§ 7661-7661f, the EPA's implementing regulations at 40 Code of Federal Regulations (C.F.R.) Part 70, and Georgia's EPA-approved state operating program regulations at Georgia Air Quality Rule 391-3-1-.03(10). The Petitioners timely filed all five petitions within 60 days after the expiration of the relevant EPA review period for each permit, consistent with CAA § 505(b)(2), 42 U.S.C. § 7661d(b)(2). Due to significant overlap in the issues raised in the Petitions and the similarity of the relevant permit conditions in each of the five permits, the EPA is responding to all five petitions in this Order.

The Petitioners requested that the EPA object to the five Georgia Power title V permits on several different grounds. The Petitioners did not raise all of their claims in every Petition. In total, the Petitioners raise five claims, which are described in detail in Section IV of this Order, below. In summary, the issues raised are:

(1) The permits lack sufficiently detailed information regarding the facilities' compliance obligations related to hazardous air pollutant (HAP) emissions under the National Emission Standards for Hazardous Air Pollutants (NESHAP) for electric utility steam generating units at 40 C.F.R. 63 Subpart UUUUU. (Raised in the petitions on Plants Hammond, Kraft, McIntosh, Wansley and Scherer).
(2) The permits do not assure compliance at all times with the sulfur dioxide (SO_2) emission limit derived from Georgia Rule 391-3-1-.02(2)(uuu) because they appear to authorize the facilities to not operate their continuous emissions monitoring system (CEMS) for SO_2 during startup, shutdown, malfunction and other periods. (Raised in the petitions on Plants Hammond, Wansley and Scherer).
(3) The permits' particulate matter (PM) monitoring requirements are insufficient to assure compliance with PM emission limits. (Raised in the petitions on Plants Hammond, McIntosh, Wansley and Scherer).
(4) The permit conditions governing fugitive dust control do not comply with the state implementation plan (SIP), do not assure compliance with the applicable 20 percent opacity standard, and are vague and unenforceable. (Raised in the petitions on Plants Hammond, Kraft, McIntosh, Wansley and Scherer).
(5) The permit for Plant Scherer should include preconstruction requirements under the CAA's Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR) programs due to recent and planned upgrades to the facility's steam turbines. (Raised in the petition on Plant Scherer).

For the reasons provided below, based on a review of the Petitions and other relevant materials, including the permits, permit records, and applicable statutory and regulatory authorities, I grant in part and deny in part the five petitions requesting that the EPA object to the five Georgia Power permits. Specifically, as explained in Section IV.D of this order, I grant the five petitions on Claim 4, regarding permit conditions governing fugitive dust, which the Petitioners raised with respect to all five permits. In addition, as described in the EPA's response to Claim 2 in Section IV of this Order, I am also notifying the state and the permittees of the EPA's determination that cause exists to reopen the Hammond, Scherer and Wansley permits, pursuant to 42 U.S.C. § 7661d(e) and 40 C.F.R. § 70.7(g).

II. STATUTORY AND REGULATORY FRAMEWORK

Section 502(d)(l) of the CAA, 42 U.S.C. § 766la(d)(l), requires each state to develop and submit to the EPA an operating permit program to meet the requirements of title V of the CAA. The EPA granted interim approval of Georgia's title V operating permit program on November 22, 1995 (60 *Fed. Reg.* 57836) and full approval on June 8, 2000 (65 *Fed. Reg.* 36358). 40 C.F.R. Part 70, Appendix A. This program is codified in Georgia Air Quality Rule 391-3-1-.03(10).

All major stationary sources of air pollution and certain other sources are required to apply for title V operating permits that include emission limitations and other conditions as necessary to assure compliance with applicable requirements of the CAA, including the requirements of the applicable SIP. CAA §§ 502(a) and 504(a), 42 U.S.C. §§ 7661a(a) and 7661c(a). The title V operating permit program generally does not impose new substantive air quality control requirements, but does require permits to contain adequate monitoring, recordkeeping, reporting and other requirements to assure sources' compliance with applicable requirements. 57 *Fed. Reg.* 32250, 32251 (July 21, 1992). One purpose of the title V program is to "enable the source, States, the EPA, and the public to understand better the requirements to which the source is subject, and whether the source is meeting those requirements." *Id.* Thus, the title V operating permit program is a vehicle for ensuring that air quality control requirements are appropriately applied to facility emission units and for assuring compliance with such requirements.

Applicable requirements for a new major stationary source or for a major modification to a major stationary source include the requirement to obtain a preconstruction permit that complies with applicable new source review (NSR) requirements. For major sources, the NSR program is comprised of two core types of preconstruction permit programs. Part C of Title I of the CAA establishes the PSD program, which applies to areas of the country that are designated as attainment or unclassifiable for the national ambient air quality-standards (NAAQS). CAA §§ 160-169, 42 U.S.C. §§ 7470-7479. Part D of Title I of the Act establishes the NNSR program, which applies to areas that are designated as nonattainment with the NAAQS. The EPA has two largely identical sets of regulations implementing the PSD program, one set, found at 40 C.F.R. § 51.166, contains the requirements that state PSD programs must meet to be approved as part of a SIP. The other set of regulations, found at 40 C.F.R. § 52.21, contains the EPA's federal PSD program, which applies in areas without a SIP-approved PSD program. The EPA has approved Georgia's PSD SIP, which is codified in Georgia Rule 391-3-1-.02(7). *See* 40 C.F.R. § 52.570(b). The EPA's regulations implementing the NNSR program are codified at 40 C.F.R. §§ 51.160-51.165, and Georgia's SIP-approved NNSR regulations are codified at Georgia Rule 391-3-1-.03(8). *See* 40 C.F.R. § 52.570(b). The applicable requirements of the Act for new major sources or major modifications include the requirement to comply with PSD and NNSR requirements. *See, e.g.,* 40 C.F.R. § 70.2.[2] At issue in this order, among other things, is whether Plant Scherer's Turbine Upgrade Project qualified as a "major modification" that should have been subject to PSD and NNSR requirements.

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[2] Under 40 C.F.R. § 70.1(b), "[a]ll sources subject to [the title V regulations] shall have a permit to operate that assures compliance by the source with all applicable requirements." "Applicable requirements" are defined in 40 C.F.R. § 70.2 to include "(1) [a]ny standard or other requirement provided for in the applicable implementation plan approved or promulgated by EPA through rulemaking under title I of the [Clean Air] Act that implements the relevant requirements of the Act, including any revisions to that plan promulgated in [40 C.F.R.] part 52; (2) [a]ny term or condition of any preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under title I, including parts C or D, of the Act."

A. Review of Issues in a Petition

State and local permitting authorities issue title V permits pursuant to the EPA-approved title V programs. Under CAA § 505(a), 42 U.S.C. § 766ld(a), and the relevant implementing regulations found at 40 C.F.R. § 70.8(a), states are required to submit each proposed title V operating permit to the EPA for review. Upon receipt of a proposed permit, the EPA has 45 days to object to final issuance of the permit if the EPA determines that the permit is not in compliance with applicable requirements of the Act. CAA §§ 505(b)(1), 42 U.S.C. § 7661d(b)(1); *see also* 40 C.F.R. § 70.8(c) (providing that the EPA will object if the EPA determines that a permit is not in compliance with applicable requirements or requirements under 40 C.F.R. Part 70). If the EPA does not object to a permit on its own initiative, § 505(b)(2) of the Act and 40 C.F.R. § 70.8(d), provide that any person may petition the Administrator, within 60 days of the expiration of the EPA's 45-day review period, to object to the permit. The petition shall be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided by the permitting agency (unless the petitioner demonstrates in the petition to the Administrator that it was impracticable to raise such objections within such period or unless the grounds for such objection arose after such period). CAA § 505(b)(2), 42 U.S.C. § 7661d(b)(2); 40 C.F.R. § 70.8(d). In response to such a petition, the Act requires the Administrator to issue an objection if a petitioner demonstrates to the Administrator that a permit is not in compliance with the requirements of the Act. CAA § 505(b)(2), 42 U.S.C. § 7661d(b)(2); 40 C.F.R. § 70.8(c)(1); *see also New York Public Interest Research Group, Inc. (NYPIRG) v. Whitman,* 321 F.3d 316, 333 n.11 (2nd Cir. 2003). Under § 505(b)(2) of the Act, the burden is on the petitioner to make the required demonstration to the EPA. *MacClarence v. EPA,* 596 F.3d 1123, 1130-33 (9th Cir. 2010); *Sierra Club v. Johnson,* 541 F.3d 1257, 1266-1267 (11th Cir. 2008); *Citizens Against Ruining the Environment v. EPA,* 535 F.3d 670, 677-78 (7th Cir. 2008); *WildEarth Guardians v. EPA*, 728 F.3d 1075, 1081-1082 (10th Cir. 2013); *Sierra Club v. EPA,* 557 F.3d 401, 406 (6th Cir. 2009) (discussing the burden of proof in title V petitions); *see also NYPIRG,* 321 F.3d at 333 n.11. In evaluating a petitioner's claims, the EPA considers, as appropriate, the adequacy of the permitting authority's rationale in the permitting record, including the response to comments (RTC), among other things.

The petitioner's demonstration burden is a critical component of CAA § 505(b)(2). As courts have recognized, CAA § 505(b)(2) contains both a "discretionary component," to determine whether a petition demonstrates to the Administrator that a permit is not in compliance with the requirements of the Act, and a nondiscretionary duty to object where such a demonstration is made. *NYPIRG*, 321 F.3d at 333; *Sierra Club v. Johnson*, 541 F.3d at 1265-66 ("it is undeniable [CAA § 505(b)(2)] also contains a discretionary component: it requires the Administrator to make a judgment of whether a petition demonstrates a permit does not comply with clean air requirements"). Courts have also made clear that the Administrator is only obligated to grant a petition to object under CAA § 505(b)(2) if the Administrator determines that the petitioners have demonstrated that the permit is not in compliance with requirements of the Act. *See, e.g., Citizens Against Ruining the Environment*, 535 F.3d at 667 (§ 505(b)(2) "clearly obligates the Administrator to (1) determine whether the petition demonstrates noncompliance and (2) object if such a demonstration is made") (emphasis added); *NYPIRG*, 321 F.3d at 334 ("§ 505(b)[2] of the CAA provides a step-by-step procedure by which objections to draft permits may be raised and directs the EPA to grant or deny them, *depending on* whether non-compliance has been demonstrated.") (emphasis added); *Sierra Club v. Johnson*, 541 F.3d at 1265 ("Congress's use of the word 'shall' … plainly mandates an objection *whenever* a petitioner demonstrates noncompliance") (emphasis added). When courts review the EPA's interpretation of the ambiguous term "demonstrates" and its determination as to whether the demonstration has been made, they have applied a deferential

standard of review. *See, e.g., Sierra Club v. Johnson*, 541 F.3d at 1265-66; *Citizens Against Ruining the Environment*, 535 F.3d at 678; *MacClarence*, 596 F.3d at 1130-31. This order addresses certain aspects of the petitioner demonstration burden below; however, a fuller discussion can be found in *In the Matter of Consolidated Environmental Management, Inc. – Nucor Steel Louisiana*, Order on Petition Numbers VI-2011-06 and VI-2012-07 (June 19, 2013) (*Nucor II Order*) at 4-7.

The EPA examines a number of criteria in determining whether a petitioner has demonstrated noncompliance with the Act. *See generally Nucor II Order* at 7. For example, one such criterion is whether the petitioner has addressed the state or local permitting authority's decision and reasoning. The EPA expects the petitioner to address the permitting authority's decision, and reasoning (including the RTC, where available). *See MacClarence*, 596 F.3d at 1132-33; *see also, e.g., In the Matter of Noranda Alumina, LLC*, Order on Petition No. VI-2011-04 (December 14, 2012) (*Noranda Order*) at 20 (denying title V petition issue where petitioners did not respond to state's explanation in response to comments or explain why the state erred or the permit was deficient); *In the Matter of Kentucky Syngas, LLC*, Order on Petition No. IV-2010-9 (June 22, 2012) at 41 (*2012 Kentucky Syngas Order*) (denying title V petition issue where petitioners did not acknowledge or reply to state's response to comments or provide a particularized rationale for why the state erred or the permit was deficient). Another factor the EPA examines is whether the petitioner has provided the relevant analyses and citations to support its claims. If the petitioner does not, the EPA is left to work out the basis for petitioner's objection, contrary to Congress' express allocation of the burden of demonstration to the petitioner in CAA § 505(b)(2). *See MacClarence*, 596 F.3d at 1131 ("the Administrator's requirement that [a title V petitioner] support his allegations with legal reasoning, evidence, and references is reasonable and persuasive"); *In the Matter of Murphy Oil USA, Inc.*, Order on Petition No. VI-2011-02 (Sept. 21, 2011) (hereafter "*Murphy Oil Order*") at 12 (denying a title V petition claim where the petitioner claimed that the permit lacked sufficient monitoring, but failed to identify any permit term or condition for which monitoring was lacking). Relatedly, the EPA has pointed out in numerous orders that, in particular cases, general assertions or allegations did not meet the demonstration standard. *See, e.g., In the Matter of Luminant Generation Co. – Sandow 5 Generating Plant*, Order on Petition Number VI-2011-05 (Jan. 15, 2013) at 9; *In the Matter of BP Exploration (Alaska) Inc., Gathering Center #1*, Order on Petition Number VII-2004-02 (Apr. 20, 2007) at 8; *In the Matter of Chevron Products Co., Richmond, Calif. Facility*, Order on Petition No. IX-2004-10 (Mar. 15, 2005) (hereafter "*Chevron Order*") at 12, 24. Also, if the petitioner fails to address a key element of a particular issue, the EPA has denied the petition. *See, e.g., In the Matter of Public Service Company of Colorado, dba Xcel Energy, Pawnee Station,* Order on Petition Number: VIII-2010-XX (June 30, 2011) at 7–10; *See, e.g., In the Matter of Georgia Pacific Consumer Products LP Plant,* Order on Petition No. V-2011-1 at 6-7, 10-11 (July 23, 2012) at 10–11, 13–14.

B. Raising NSR Issues in a Petition

Where a petitioner's request that the Administrator object to the issuance of a title V permit is based in whole, or in part, on a permitting authority's alleged failure to comply with the requirements of its approved PSD or NNSR program (as with other allegations of inconsistency with the Act), the burden is on the petitioners to demonstrate to the Administrator that the permitting decision was not in compliance with the requirements of the Act, including the requirements of the SIP. Such requirements, as the EPA has explained in describing its authority to oversee the implementation of the PSD program in states with approved programs, include the requirements that the permitting authority, if applicable: (1) follow the required procedures in the SIP; (2) make PSD determinations on reasonable grounds properly supported on the record; and (3) describe the determinations in enforceable terms. *See, e.g., In the*

Matter of Wisconsin Power and Light, Columbia Generating Station, Order on Petition No. V-2008-01 (October 8, 2009) (*Columbia Generating Order*) at 8.[3]

Georgia EPD has substantial discretion in carrying out its responsibilities under Georgia's SIP-approved PSD and NNSR programs. Given this discretion, in reviewing a PSD or NNSR permitting decision, the EPA will not substitute its own judgment for that of Georgia. Rather, consistent with the decision in *Alaska Dep't of Envt'l Conservation v. EPA*, 540 U.S. 461 (2004), in reviewing a petition to object to a title V permit raising concerns regarding a state's PSD or NNSR permitting decision, the EPA generally will look to see whether the petitioner has shown that the state did not comply with its SIP-approved regulations governing PSD permitting or whether the state's exercise of discretion under such regulations was unreasonable or arbitrary. *See, e.g., In re Louisville Gas and Electric Company*, Order on Petition No. IV-2008-3 (Aug. 12, 2009) (hereafter "*LG&E Order*"); *In re East Kentucky Power Cooperative, Inc. Hugh L. Spurlock Generating Station*, Order on Petition No. IV-2006-4 (Aug. 30, 2007) (hereafter "*Spurlock Order*"); *In re Pacific Coast Building Products, Inc.* (Order on Petition) (Dec. 10, 1999); *In re Roosevelt Regional Landfill Regional Disposal Company* (Order on Petition) (May 4, 1999).

III. BACKGROUND

Plant Hammond is located in northwest Georgia near Coosa in Floyd County. The facility, which commenced operation in June 1954, currently consists of four wall-fired steam generating units (designated as Units SG01 through 04) with maximum heat input capacities ranging from 1,313 to 5,972 million British thermal units per hour (MMBtu/hr). Bituminous coal is the primary fuel for these units with limited use of wood, biomass, and #2 fuel oil. Also present are associated coal, ash and materials handling systems. Add-on controls include a flue gas desulfurization (FGD) scrubber system and electrostatic precipitators (ESPs) on Units SG01 through 04 and a selective catalytic reduction (SCR) scrubber on Unit SG04. The initial title V permit (#4911-115-0003-V-01-0) was issued January 1, 2000; the renewal permit (#4911-115-0003-V-03-0), on which the petition is based, was issued May 8, 2012.

Plant Kraft is located in north coastal Georgia near Port Wentworth in Chatham County. The facility, which commenced operation in 1958, currently consists of one wall-fired steam generating unit (Unit SG04)and three tangentially-fired steam generating units (Units SG01 through 03 and SG04) with maximum heat input capacities ranging from 647 to 1,493 MMBtu/hr. Bituminous coal is the primary fuel for Units SG01 through 03 with natural gas as backup. Natural gas is the primary fuel for Unit SG04 with #6 fuel oil as backup. Also present are: a simple cycle combustion turbine rated at 17 megawatts (MW) using natural gas as primary fuel with #2 fuel oil as backup, associated coal and ash handling systems, and a barge-to-railcar unloading system (for transport of coal to other facilities). Add-on controls include ESPs on Units SG01 through 03 and a dust control system on the barge-to-railcar transfer system. The initial title V permit (#4911-015-0006-V-01-0) was issued November 9, 1999; the renewal permit (#4911-015-0006-V-03-0), on which the petition is based, was issued September 24, 2012.

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[3] In reviewing PSD permit determinations in the context of a petition to object to a title V permit, the standard of review applied by the Environmental Appeals Board (EAB) in reviewing the appeals of federal PSD permits provides a useful analogy. *In the Matter of Louisville Gas and Electric Company*, Order on Petition No. IV-2008-3 (Aug. 12, 2009) at 5 n.6; *see also In the Matter of East Kentucky Power Cooperative, Inc., Hugh L. Spurlock Generating Station*, Order on Petition No. IV-2006-4 (Aug. 30, 2007) at 5. The standard of review applied by the EAB in its review of federal PSD permits is discussed in numerous EAB orders as the "clearly erroneous" standard. *See, e.g., In re Prairie State Generation Company*, 13 E.A.D. 1, 10 (EAB, Aug. 24, 2006) (*Prairie State*); *In re Kawaihae Cogeneration*, 7 E.A.D. 107, 114 (EAB, April 28, 1997). In short, in such appeals, the EAB has explained that the burden is on a petitioner to demonstrate that review is warranted.

Plant McIntosh is located in east Georgia near Rincon in Effingham County. The facility, which commenced operation in 1979, currently consists of one wall-fired steam generating unit (designated as Unit SG01) with a maximum heat input of 1,862 MMBtu/hr. Bituminous coal is the primary fuel with limited use of wood, biomass and #2 fuel oil. Also present are: eight simple cycle combustion turbines rated at 103.5 MW each using natural gas as the primary fuel with #2 fuel oil, biodiesel and biodiesel blends as backup; one startup boiler; and associated coal and ash handling systems. Add-on controls include an ESP on SG01. The initial title V permit (#4911-103-0003-V-01-0) was issued November 9, 1999; the renewal permit (#4911-103-0003-V-03-0), on which the petition is based, was issued September 25, 2012.

Plant Scherer is located in middle Georgia near Juliette in Monroe County. The facility, which commenced operation in March 1982, currently consists of four tangentially-fired steam generating units (designated as Units SG01 through 04). Georgia Power is in the process of upgrading its four steam turbines and installing pollution control equipment; following completion of all steam turbine upgrades the maximum heat input capacities for the generating units will range from 9,653 to a projected 10,070 MMBtu/hr. Bituminous coal is the primary fuel with limited use of wood and #2 fuel oil. Also present are: two startup boilers and associated coal, ash and materials handling systems. Add-on controls include (or will include) FGD and SCR scrubber systems, ESPs and baghouses on Units SG01 through 04; wet suppression system on the coal handling system; and baghouses on the limestone silos of the materials handling system. The initial title V permit (#4911-207-0008-V-01-0) was issued January 1, 2000; the renewal permit (#4911-207-0008-V-03-0), on which the petition is based, was issued May 8, 2012.

Plant Scherer's title V permit was revised to address the recent steam turbine upgrades: the Unit SG03 steam turbine upgrade was addressed in permit revision #4911-207-0008-V-02-7, issued on November 16, 2009; the Unit SG01, 02 and 04 steam turbine upgrades were addressed in permit revision #4911-207-0008-V-02-A issued on February 23, 2010. According to the permit record, the purpose of the turbine upgrades is two-fold: (1) to improve the efficiency of the high-pressure section of the turbine, *i.e.*, the turbine will be able to generate more electricity from a unit of coal; and (2) to increase the maximum steam flow capacity (and, thus, increase heat input capacity) of the turbine, *i.e.*, the turbine will be able to generate more electricity due to increased capacity to burn coal.[4] This combined effect is to increase the maximum generating capacity of Scherer by 140 MW (or 35 MW from each turbine).[5] According to the respective statements of basis for the relevant permit revisions, the turbine upgrades were not projected to result in a significant emissions increase and, therefore, did not trigger PSD or NNSR review. The planned timing of the turbine upgrades was as follows: October 2010 for Unit SG03, January 2012 for Unit SG04, April 2013 for Unit SG02 and October 2013 for Unit SG01.

Concurrent with the steam turbine upgrades and as part of the same project, *i.e.*, during the same shutdown period for each electric utility steam generating unit (boiler/turbine or EUSGU)[6], Georgia Power received authorization from Georgia EPD to install pollution controls (FGDs and SCRs) on Units SG01 through 04 to comply with Georgia Rule 391-3-1-.02(2)(sss). Georgia EPD addressed Georgia

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[4] *See, e.g.,* Georgia Power's SIP Air Permit Application #18-835 for Unit SG03, dated March 10, 2009, at 4 (Plant Scherer Petition Exhibit E).

[5] *Id.*

[6] "Electric utility steam generating unit" means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility. *See* 40 C.F.R. § 52.21(b)(31) and Georgia Rule 391-3-1.02(7)(a)2.(i), which in this case are identical.

Power's request to install the pollution controls in a significant modification to their title V permit issued on May 12, 2010 (#4911-207-0008-V-02-B).[7] The controls will be installed and operating when the source resumes regular operation after the project's completion.[8]

Plant Wansley is located in west Georgia near Carrollton in Heard County. The facility, which commenced operation in December 1976, currently consists of two tangentially-fired steam generating units (designated as Units SG01 and 02) with maximum heat input capacities of 9,420 MMBtu/her each. Bituminous coal is the primary fuel with limited use of wood, biomass, biodiesel, biodiesel blends and #2 fuel oil. Also present are: a simple cycle combustion turbine rated at 54 MW using #2 fuel oil, biodiesel and biodiesel blends; two startup boilers; and associated coal, ash and materials handling systems. Add-on controls include FGD and SCR scrubber systems and ESPs on Units SG01 and 02. The initial title V permit (#4911-149-0001-V-01-0) was issued January 1, 2000; the renewal permit (#4911-149-0001-V-03-0), on which the petition is based, was issued July 26, 2012.

IV. ISSUES RAISED BY THE PETITIONERS AND THE EPA'S RESPONSES[9]

Claim 1: Petitioners' Claim that the Permits Should Include Detailed Requirements for Hazardous Air Pollutant ("HAP") Standards.

Petitioners' Claim.[10] In their petitions of the permits for Plants Hammond, Kraft, McIntosh, Wansley and Scherer, the Petitioners claim that the permits are deficient because they lack sufficient detail regarding the facilities' obligation to control hazardous air pollutants under the NESHAP applicable to coal- and oil-fired electric utility steam generating units, which the Petitioners refer to as the "EGU MACT." The Petitioners observe that each of the five permits includes a condition that "makes a generic reference to the EGU MACT." The Petitioners note that this condition was not included in two of the permits when they were released for public comment, but that Georgia EPD added the condition to those two permits. The Petitioners assert that this generic condition is insufficient. Specifically, the Petitioners contend that all five permits are deficient because they do not include "the specific requirements of the

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[7] The narrative accompanying the permit revision addressing the turbine upgrades for Units SG01, SG0, and SG04 explained: "A flue gas desulfurization (scrubber) system and a selective catalytic reduction (SCR) system will be installed simultaneously with the project as required in accordance with Georgia Rule (sss)." Narrative, Permit Amendment #4911-207-0008-V-02-A, at 3. *See also* Narrative, Permit Amendment #4911-207-0008-V-7, at 3 (stating the same with respect to the relationship between the turbine upgrade for Unit SG03 and the installation of controls required by Georgia Rule (sss)).

[8] The footnotes for the "projected actual emissions" table in the narrative accompanying the permit revision addressing the turbine upgrades for Units SG01, SG02, and SG04 indicate that the emissions projections included consideration of the effect of controls. *See* Narrative, Permit Amendment #4911-207-0008-V-02-A, at 6. While the narrative accompanying the permit revision for Unit SG03 does not include the footnotes cited above, the EPA concludes the "projected actual emissions" for Unit SG03 also include operation of the controls for this unit, since the permit narrative describe identical controls (scrubber and SCR) installed simultaneously to the turbine upgrade projects to comply with the same requirements (Rule sss) at Unit SG01, Unit SG02 and Unit SG04. Narrative, Permit Amendment #4911-207-0008-V-02-7, at 3. Additionally, the associated permit application for the upgrade to Unit SG03 explained: "Actual emissions estimates based on ozone season only operation of the SCR…". Finally, Permit Condition 6.2.21 specifies for all four units that the Permittee must calculate and maintain a record of annual emissions for a period of ten years "following resumption of regular operations after installation of the upgraded high pressure steam turbines, and control equipment for each unit." (emphasis added). Therefore, for all four units, it is clear that the applicant and Georgia EPD envisioned that the controls would be installed and operating when the units resumed regular operations following completion of the Turbine Upgrade Project.

[9] Headings summarizing Petitioners' claims are taken verbatim from the Petition.

[10] Petitioners' claims regarding the inadequacy of the permits with respect to HAP standards appear in the Plant Hammond Petition at 10-11, the Plant Kraft Petition at 3-4, the Plant McIntosh Petition at 8-9, the Plant Wansley Petition at 11-12, and the Plant Scherer Petition at 19.

EGU MACT" and also do not include "provisions to add any additional monitoring required by 40 C.F.R. § 70.6(c)(1)."

EPA's Response. For the reasons provided below, I deny the Petitioners' request for an objection to the permits on this claim. The Petitioners did not demonstrate that the permits lack sufficient specificity regarding applicable EGU NESHAP requirements and associated monitoring.

The EGU NESHAP, published at 40 C.F.R. 63 Subpart UUUUU, was promulgated on February 16, 2012 and became effective on April 16, 2012. 77 *Fed. Reg.* 9304. The date by which sources must be in compliance is April 16, 2015, 40 C.F.R. § 63.9984(b), unless the source seeks and is granted a one year extension, 40 C.F.R. 63.6(i). The EGU NESHAP establishes numerical emission limits and allows facilities to select from a range of widely available and economically feasible technologies, practices and compliance strategies to meet these limits. The rule also provides an alternative compliance option for sources that plan to comply by averaging across multiple units.

Georgia EPD issued all five of the title V permits addressed by the Petitions more than two years prior to the EGU NESHAP compliance date.[11] Each of the five permits includes the following condition (or the equivalent) with respect to the EGU NESHAP:

> The Permittee shall comply with all applicable provisions of the "National Emission Standards for Hazardous Air Pollutants" as found in 40 CFR Subpart A, "General Provisions" and 40 CFR 63, Subpart UUUUU, "National Emission Standards for Hazardous Air Pollutants from Coal and Oil-Fired Electric Utility Steam Generating Units" for operation of steam generating units.
> [40 CFR 63, Subparts A and UUUUU][12]

Absent a specific requirement in the applicable NESHAP, a source is not required to have determined which of the available compliance approaches it will use to comply with the rule prior to the compliance date. The Petitioners have not identified any provision of the EGU MACT that requires such action. Selection of the particular compliance options for an affected source from among the available options in a NESHAP can be a complex determination.[13] Thus, when a permit is issued prior to the NESHAP compliance date, a source may not have yet determined the provisions that will describe NESHAP applicability beyond the subpart level. EPA has previously stated that:

> When a permit is issued prior to the MACT compliance date, the EPA believes that it is acceptable for the initial permit to describe MACT applicability at the Subpart level, and for all other compliance requirements (including compliance options and parameter ranges) of the MACT that apply below the Subpart level to be added at a later time as a significant permit modification.

In re ConocoPhillips Company, Order on Petition, Petition No. IX-2004-09 (March 15, 2005), at 24-25; see also *In re Chevron Products Company*, Order on Petition, Petition No. IX-2004-08 (March 15, 2005), at 39; Letter from John Seitz, EPA, to Robert Hodanbosi, STAPPA/ALAPCO (May 20, 1999),

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[11] Georgia EPD issued the Plants Scherer and Hammond permits on May 8, 2012, the Plant Wansley permit on July 26, 2012, the Plant Kraft permit on September 24, 2012, and the Plant McIntosh permit on September 25, 2012.
[12] Plant Hammond Permit Condition 3.3.1, Plant Kraft Permit Condition 3.3.2, Plant McIntosh Permit at 3.3.9, Plant Wansley Permit Condition 3.3.6, Plant Scherer Permit Condition 3.3.8.
[13] *See* for example, 77 *Fed. Reg.* 9494-9498.

Enclosure B. Consistent with this approach, Georgia EPD explained in its response to comments on several of the draft permits that it "will add any necessary conditions for EGU MACT in a permit amendment in the future." Plant Kraft RTC at 2, Plant McIntosh RTC at 10, Plant Wansley RTC at 8. In light the above, the Petitioners have not demonstrated that it is necessary for the five permits addressed in their petitions to include additional detail regarding the specific EGU NESHAP requirements and associated monitoring prior to the MACT compliance date.

Claim 2: Petitioners' Claim that the Permits Should Clearly Require SO_2 CEMS Operation During All Periods of Operation Except CEMS Breakdown and Repair.

Petitioners' Claim.[14] In the Hammond, Scherer and Wansley petitions, the Petitioners contend that the monitoring included in the relevant permits is insufficient to assure compliance with the 95 percent SO_2 reduction requirement in Georgia Rule 391-3-1-.02(2)(uuu) ("Rule (uuu)").[15] The Petitioners assert that "it is unclear in the Permit[s] whether operation of SO_2 CEMS is required during startup, shutdown, and malfunction."[16] The Petitioners assert further that allowing the facilities to cease operation of the SO_2 CEMS during startup, shutdown and malfunction periods makes the CEMS insufficient to assure compliance with the SO_2 emission limitation set forth in permit conditions based on Rule (uuu). The Petitioners contend that Georgia EPD should revise the permit to clearly require CEMS operation at all times, including during startup, shutdown and malfunction.

EPA's response. For the reasons provided below, I am hereby notifying the state and the permittees of the EPA's determination that cause exists to reopen the Hammond, Scherer and Wansley permits. Pursuant to 42 U.S.C. § 7661d(e) and 40 C.F.R. §§ 70.7(f) and (g), the EPA has determined that the three permits identified in the Petitioners' claim contain material mistakes that require correction and are related to the Petitioners' claim. Specifically, the permits erroneously identify as federally enforceable permit conditions that cite to Georgia Rule 391-3-1-.02(2)(uuu) as their legal basis. Additionally, the EPA has determined that the permit for Scherer erroneously incorporates state-only exemptions from SO_2 CEMS operation contained in Georgia Rule 391-3-1-.02(2)(uuu)4 into federally enforceable conditions addressing monitoring for the SO_2 limit from the EPA's New Source Performance Standard (NSPS) at 40 C.F.R. part 60, Subpart D, 40 C.F.R. § 60.43(a)(2). *See* Scherer Permit Condition 5.2.21.[17]

Under 40 C.F.R. § 70.6(b)(2), "the permitting authority shall specifically designate as not being federally enforceable under the Act any terms and conditions included in the permit that are not required under the Act or under any of its applicable requirements." Several conditions in each of the three permits cite Georgia Rule 391-3-1-.02(2)(uuu) as their legal basis.[18] Georgia EPD submitted Georgia

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[14] Petitioners' claims regarding operation of the SO_2 CEMS appear in the Hammond Petition at 9-10, the Scherer Petition at 17-18, and the Wansley Petition at 9-11.

[15] The SO_2 emission limitations cited by Petitioner are: Hammond Permit at conditions 3.4.9; Scherer Permit at conditions 3.4.15-3.4.18; and Wansley Permit at conditions 3.4.13-3.4.14. These permit conditions cite Rule (uuu) as their legal basis.

[16] Hammond Petition at 9; Scherer Petition at 17; Wansley Petition at 9-10. The monitoring language that the Petitioner claims may exempt the source from the requirement to operate SO_2 CEMS during startup, shutdown, and malfunction periods also derives from Rule (uuu). Hammond Permit at conditions 5.2.11, 3.4.10; Scherer Permit at conditions 5.2.21, 3.4.19; Wansley Permit at conditions 5.2.14.

[17] The NSPS SO_2 limit is in Condition 3.3.4. Condition 5.2.4 specifies that the source must use SO_2 CEMS to assure compliance with the NSPS limit, and references the SO_2 CEMS requirement in Condition 5.2.1f. Condition 5.2.21 exempts the source from having to operate the SO_2 CEMS required by Condition 5.2.1f during any period allowed under Condition 3.4.19. Condition 3.4.19 contains the state-only CEMS exemptions provided in Georgia Rule 391-3-1-.02(d)(uuu)4.

[18] The Rule (uuu) SO_2 limit appears in the Hammond Permit at condition 3.4.9, in the Scherer Permit at conditions 3.4.15-3.4.18, and in the Wansley Permit at conditions 3.4.13-3.4.14. The associated CEMS requirements appear in the Hammond Permit at conditions 5.2.11, and 3.4.10, in the Scherer Permit at conditions 5.2.21 and 3.4.19, and in the Wansley Permit at

Rule 391-3-1-.02(2)(uuu) to the EPA for incorporation into the Georgia SIP, but the EPA has neither proposed approval nor taken final action on this submittal. Absent approval by the EPA, Georgia Rule 391-3-1-.02(2)(uuu) is not part of the Georgia SIP, and therefore is not a federally enforceable "applicable requirement," as defined by 40 C.F.R. § 70.2. The title V permits for Plants Hammond, Scherer and Wansley include numerous conditions labeled as "State Only Enforceable," but do not label the conditions related to Georgia Rule 391-3-1-.02(2)(uuu) as such, and Georgia EPD did not label these permit requirements based on Rule (uuu) as "not being federally enforceable" anywhere else. Also, the Scherer permit erroneously applies the state-only CEMS exemptions contained in Georgia Rule 391-3-1-.02(2)(uuu)4 to monitoring conditions for the federally enforceable SO_2 limit from 40 C.F.R. § 60.43(a)(2). Based on these findings, the EPA concludes that cause exists to reopen the three permits to correct these mistakes. In accordance with 42 U.S.C. § 7661d(e) and 40 CFR § 70.7(g), the EPA hereby notifies the Georgia EPD and the permittees of EPA's determination. In response to this notification, Georgia EPD must take action to: (1) ensure that any permit condition that cites to Georgia Rule 391-3-1-.02(2)(uuu) as its legal basis is designated as not being federally enforceable; (2) ensure that the CEMS exemptions from Georgia Rule 391-3-1-.02(2)(uuu)4 are not incorporated into permit conditions addressing monitoring for federal requirements; and (3) ensure and clarify that the federal portion of the permits contains the necessary monitoring requirements for the permits' federal SO_2 limits (e.g., Condition 5.2.4 from the Scherer Permit).

Accordingly, I am neither granting nor denying this claim. Clean Air Act section 505(b)(2) indicates the Administrator "shall grant or deny [a] petition within 60 days after the petition is filed." This provision does not direct how the Administrator must address the individual issues in each petition, thus providing the EPA with discretion in determining the best approach. The EPA may consider the complexity of the issues, the inter-relatedness of the issues, agency resources, public participation opportunities, source-specific considerations and other relevant factors in deciding the most appropriate approach for addressing the issues in each petition. *See also In the Consolidated Environmental Management, Inc. – Nucor Steel Louisiana*, Petition Nos. VI-201002 and VI-2011-03 at 11 (March 23, 2012) (*Nucor I Order*) ("Section 505(b)(2) does not specify whether the EPA must respond initially to all of the issues raised in a petition."). In this instance, the EPA has initiated a process to reopen the permits on which Petitioners' Claim 2 is based. Further, the questions underlying Petitioners' claims could be moot or could be substantively different depending on Georgia EPD's response to the EPA's determinations described above and the reopening for cause process.

Claim 3: Petitioners' Claim that the Permits' PM Monitoring Provisions Must be Strengthened.

Petitioners' Claim.[19] The Petitioners contend in their petitions on the Plant Hammond, McIntosh, Wansley and Scherer permits that the PM stack testing frequency required in the permits is insufficient to assure continuous compliance with the applicable hourly PM limitations.[20] Citing to *In re U.S. Steel*

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condition 5.2.14.

[19] Petitioners' claims regarding PM monitoring appear in the Plant Scherer Petition at 14-17, the Plant Hammond Petition at 6-9, the Plant McIntosh Petition at 3-8 and the Plant Wansley Petition at 6-9.

[20] Plant McIntosh's one steam generating unit is subject to a PM limit of 0.18 lb/MMBtu heat input under Georgia Rules 391-3-1-.02(2)(c) and .02(2)(d)1(ii). Plant McIntosh Permit Condition 3.4.1. Plant Scherer's four steam generating units are subject to a PM limit of 0.10 lb/MMBtu heat input under 40 C.F.R. § 60.42(a)(1) and Georgia Rule 391-3-1-.02(2)(d)2(iii). Plant Scherer Permit Condition 3.3.2. Plant Hammond's four steam generating units are subject to a PM limit of 0.24 lb/MMBtu heat input under Georgia Rule 391-3-1-.02(2)(d)1(iii). Hammond Permit Condition 3.4.1. Plant Wansley's two steam generating units are subject to a PM limit of 0.24 lb/MMBtu heat input under Georgia Rule 391-3-1-.02(2)(d)1(iii). Plant Wansley Permit Condition 3.4.1.

Corporation—Granite City Works, Order on Petition, Petition No. V-2009-03 (Jan. 31, 2011), the Petitioners contend that the EPA has already found "that PM compliance testing once every permit cycle (5 years) was facially insufficient to assure compliance with continuous limitations." The Petitioners acknowledge that the permits also require the facilities to monitor opacity using continuous opacity monitoring systems (COMS), but state that Georgia EPD does not discuss or try to establish a correlation between opacity limits and PM limits.[21] The Petitioners further contend that neither the permits nor Georgia EPD's responses to comments provide a detailed rationale as to why the chosen monitoring method is sufficient to assure compliance. The Petitioners claim that the permits should require a continuous emissions monitoring system (CEMS) for PM, or at a minimum, must include more frequent PM stack tests, e.g. quarterly, and the use of continuous parametric or surrogate monitoring with site specific correlations established during each stack test.[22] According to the Petitioners, "the variability of emissions, especially as they relate to the add-on controls," strongly indicates the necessity for continuous monitoring. The Petitioners contend that companies arrange diagnostic tests prior to official stack tests to ensure that their facility passes the stack tests, "even though particulate matter emissions may be much greater" during the rest of the five-to-ten-year period. The Petitioners note that PM CEMS "are increasingly employed at other coal-fired power plants," and that the EPA has "secured commitments from up to 30 existing coal-fired utility installations to install PM CEMS within the next few years." The Petitioners state that "[g]iven the use, reliability, and accuracy of monitoring requirements for similar emission units at other facilities, the EPA should object to the Permit and require the use of PM CEMS."

EPA's Response. For the reasons provided below, I deny the Petitioners' request for an objection to the permits on this claim. The Petitioners fail to demonstrate that the permits' monitoring requirements, viewed as a whole, are insufficient to assure compliance with the applicable PM limits. As discussed below, in addition to requiring stack testing, each permit includes parametric monitoring requirements designed to assure compliance with the applicable PM limits. Furthermore, contrary to Petitioners' assertion, the compliance assurance monitoring (CAM) plan attached to each of the facilities' permit applications, which is part of the title V permit record, shows a source-specific correlation between opacity levels and compliance with the applicable PM limits. Therefore, the Petitioners did not meet their burden of demonstrating that the permits are not in compliance with the requirements of the Act.

Further, although CEMS may be the preferred type of monitoring in some instances, CEMS are not always necessary to assure compliance with applicable requirements. Section 504(b) of the Act provides that "continuous emissions monitoring need not be required if alternative methods are available that provide sufficiently reliable and timely information for determining compliance." 42 U.S.C. § 7661c(b). *See also In re Alliant Energy WPL-Edgewater Generating Station,* Order on Petition, Petition Number V -2009-02 (August 17, 2010), at 11. The Petitioners neither identify an applicable requirement that compels the use of CEMS nor demonstrate that a CEM is the only monitoring method that can assure compliance with the applicable requirements.

As described in detail below, the Georgia Power permits at issue utilize a three-pronged approach for assuring compliance with the applicable PM limits: (1) performance testing to demonstrate that the

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[21] Regarding Plant McIntosh, the petition notes that EPD "attempt[s] to correlate between opacity and PM," but contends that EPD's explanation was inadequate because the relationship between opacity and PM can differ based on load and EPD did not explain whether the stack tests were across a range of loads, and also because it is unclear whether EPD repeats the correlation analysis during every stack test.

[22] In the Plant Scherer petition, the Petitioner insisted that PM CEMS are necessary and did not suggest that parametric monitoring as a potentially acceptable substitute.

specified limit is being met; (2) continuous monitoring of the operation and maintenance of the applicable control devices to ensure continued proper operation (including monitoring operational parameters such as ESP indicator levels, opacity levels from COMs, number of recycling pumps in operation or sparger tube submergence levels for continuous monitoring of scrubbers/FGD); and (3) CAM plan requirements, including ranges of opacity along with additional secondary indicator monitoring in some cases.

The Petitioners have not demonstrated that Georgia EPD failed to provide a rationale for why the selected monitoring is sufficient to assure compliance with the applicable PM limits. To satisfy Part 70 requirements, "[t]he rationale for the selected monitoring requirements must be clear and documented in the permit record." *In re Public Service Company of Colorado, Pawnee Station*, Order on Petition, Petition No. VIII-2010-XX (June 30, 2011), at 12 (citing 40 C.F.R. 70.7(a)(5)). The permit record includes, among other things, the response to comments, the permit narrative, the permit application, and, for these permits, a CAM plan (or plans).[23] As discussed below, I find that, for each of the permits, the permit record sufficiently documents the rationale for the monitoring requirements selected to assure compliance with applicable PM emission limits.

Source-Specific PM Monitoring Requirements and Associated Rationale

Plant Hammond.

In response to comments, Georgia EPD explained that there is no requirement to install PM CEMS on Plant Hammond's four steam generating units (Units SG01-SG04), and that "PM testing requirements in Condition 4.2.1 and the operation of the Continuous Opacity Monitoring Systems (COMS) are sufficient monitoring requirements to ensure this facility will be able to comply with the PM and opacity emissions limits." Plant Hammond Permit RTC at 10. In addition, Georgia EPD's response points to Conditions 5.2.3 through 5.2.10 which explicitly list the CAM Plan requirements under 40 C.F.R. part 64 for SG01-SG04. *Id.* at 11. Georgia's EPD's response guides the commenter to the State's website where the CAM Plan electronic documents can be found (Application No. 19763). *Id.* Plant Hammond Permit Condition 4.2.1.b requires PM testing of SG01-SG04 stack (ST03) annually, unless previous test results were less than 50 percent of the limit of 0.24 lb/MMBtu, in which case the testing can be delayed no more than 12 months. Hammond Permit Condition 4.2.1a also requires PM testing of SG01, SG02 & SG03 scrubber bypass stack (ST01) and SG04 (ST02) after 8760 hrs of bypass operation or five years to show compliance with the limit of 0.24 lb/MMBtu. Consistent with the CAM plan, between stack tests compliance is assured through the use of parametric monitoring. Specifically, the permit requires continuous opacity monitoring upstream of the FGD scrubbers with dedicated COMS. Permit Condition 5.2.1a. The permit identifies as an exceedance "[a]ny six-minute period during which the average opacity, as measured by the COMS…exceeds 40 percent." Permit Condition 6.1.7.b.i. The permit identifies as an excursion requiring corrective action for Source 1 (comprised of steam generating units 1, 2 and 3) as "any three-hour block average during which the arithmetic average opacity, as measured by the COMS, exceeds 40 percent." Permit Condition 6.1.7.c.i. For Source 2 (comprised of steam generating unit 4), an excursion occurs whenever the three-hour block average opacity exceeds 37 percent. Permit Condition 6.1.7.c.ii. The permit also requires continuous monitoring of ESP power and continuous monitoring of the number of recycle pumps to maintain performance of the Flue Gas Desulfurization ("FGD") unit. Permit Condition 5.2.10.

[23] CAM plans for these facilities are available on Georgia EPD's website at *http://airpermit.dnr.state.ga.us/GATV/GATV/TitleV.asp*.

The rationale for the selected opacity level, ESP power level, and FGD number of recycle pumps running is provided in the permit narrative and in the CAM plans attached to Georgia Power's permit applications and included in the permit record. Specifically, Plant Hammond's CAM plan dated 4/27/04 explains that when opacity is below 40 percent for Source 1, or below 37 percent for Source 2, "test data indicates a reasonable assurance that the PM emissions will be significantly less than the permit limit." Hammond CAM Plan at 4, 8. The plan confirms that if the three-hour opacity average for either source approaches the specified level, "action will be taken to reduce the average as soon as possible." *Id.* The CAM plan further states: "The CAM opacity cap was established by measuring the particulate emissions at different opacity levels in the combined ESP exhausts … no changes have taken place that could result in a significant change in the precipitator performance or the selected indicator ranges since the compliance or performance test was conducted." *Id.* Regarding monitoring of the ESP power level and the FGD number of recycle pumps running, the permit itself explains that the ESP power and the number of FGD1 recycle pumps running and minimum rotations per minute (RPM) detected are indicators of particulate matter collection and equipment performance. Hammond Permit Condition 5.2.10. The permit narrative explains: "If the ESP power falls below the established threshold, then the number of pumps operating and the RPM for each of the pumps at the time will be verified. An excursion will be reported if the ESP power falls and the number of pumps is less than the minimum and the RPMs are below the threshold." Permit narrative at 15. The narrative further explains: "The scrubber is a secondary control device and compliance has been routinely demonstrated during the annual performance testing prior to installation of the scrubber." *Id.*

Plant Scherer.

In response to comments, Georgia EPD explained that there is no requirement to install PM CEMS on these units, and that "PM testing requirements in Condition 4.2.1 and the operation of the Continuous Opacity Monitoring Systems (COMS) are sufficient monitoring requirements to ensure this facility will be able to comply with the PM and opacity emissions limits." Plant Scherer Permit RTC at 7. The Plant Scherer permit requires PM testing of SG01, SG02, SG03 and SG04 scrubber stacks (ST05, ST06, ST07 & ST08) once every 5 years (Permit Condition 4.2.1b) for a limit of 0.10 lb/MMBtu (Permit Condition 3.3.3). The permit also requires PM testing of SG01, SG02, SG03 and SG04 scrubber bypass stacks (ST01, ST02, ST03 & ST04) after 8760 hours of bypass operation or 5 years unless previous results were 50 percent or less of limit of 0.10 lb/MMBtu. Permit Condition 4.2.1a. Between PM stack tests, the permit assures compliance with PM limits using parametric monitoring. Specifically, the permit requires continuous opacity monitoring upstream of the FGD scrubbers with dedicated COMS. Permit Condition 5.2.1b. For each of the steam generator units, Permit Condition 6.1.7 defines as an excursion (i.e., a departure from an indicator range) "any three-hour block average during which the arithmetic average opacity, as measured by the COMS, exceeds 20 percent." For SG03 and SG04, the permit supplements opacity monitoring with a second compliance indicator: the number of FGD recycle pumps running. Conditions 5.2.8 and 5.2.9.

The rationale for the monitoring selected to assure compliance with applicable PM limits is provided in the permit, the permit narrative, and in Plant Scherer's CAM plan (attached to the permit application and included in the permit record). As the permit narrative explains, SG01, SG02, SG03 and SG04 and the associated FGD Scrubber and ESP are subject to the CAM plan requirements of 40 CFR part 64 for control of PM. Plant Scherer Permit Narrative at 14. The parametric monitoring requirements included in the permit to assure compliance with the PM limit are taken from the plant's CAM plan dated 4/27/04. Regarding the required opacity monitoring, the CAM plan explains that for each of the units, when opacity is below 20 percent, "test data indicates a reasonable assurance that the PM emissions will be less than the permit limit." CAM plan at 4 (SG01), at 8 (SG02), at 12 (SG03), at 16 (SG04). The plan

further states: "If the three-hour opacity average approaches 20%, action will be taken to reduce the average as soon as possible." *Id.* According to the plan, the opacity cap "was established by measuring the particulate emissions at different opacity levels in the ESP exhaust." *Id.* The plan explains: "No changes have taken place that could result in a significant change in the precipitator performance or the selected indicator since the compliance or performance test was conducted." *Id.* The requirement to monitor the number of FGD recycle pumps running at Units SG03 and SG04 is based on a CAM plan modification submitted on June 22, 2011. As the permit explains: "The number of FGD pumps running is an indicator of particulate matter collection and equipment performance of the FGD." Plant Scherer Permit Conditions 5.2.8 and 5.2.9. The 2011 CAM plan modification summarizes test data indicating the correlation between the number of FGD recycle pumps running and particulate matter emissions. 2011 CAM Plan at 3.

Plant Wansley.

In response to comments, Georgia EPD explained that there is no requirement to install PM CEMS on these units and that "PM testing requirements in Condition 4.2.1 and the operation of the Continuous Opacity Monitoring Systems (COMS) are sufficient monitoring requirements to ensure this facility will be able to comply with the PM and opacity emissions limits." Plant Wansley Permit RTC at 6. The Plant Wansley permit requires PM testing of SG01 & SG02 scrubber stacks (ST03 & ST04) every 5 years (Permit Condition 4.2.1b) to show compliance with a limit of 0.24 lb/MMBtu (Permit Condition 3.4.1). The permit also requires PM testing of SG01 & SG02 scrubber bypass stacks (ST01 & ST02) after 8760 hours of bypass operation or 5 years (Permit Condition 4.2.1a) to show compliance with the PM limit of 0.24 lb/MMBtu (Permit Condition 3.4.1). Between PM stack tests, the permit assures compliance with PM limits using parametric monitoring. The permit narrative explains that PM emissions from Steam Generating Units 1 and 2 are each controlled by an ESP (Source Codes EP01 and EP02) on the bypass stack liner and controlled by a FGD system (Source Codes FGD1 and FGD2) on the main stack liners. Plant Wansley Permit Narrative at 26. Permit Condition 5.2.1 requires the Permittee to install and operate a COMS on SG01 and SG02 located in each liner of the scrubber bypass stacks. Performance criteria for the COMS are established in Permit Conditions 5.2.6 and 5.2.7. Under Permit Condition 6.1.7.b, any six-minute period during which the average opacity, as measured by the COMs for Units SG01 and SG02, exceeds 40 percent shall be reported as an exceedance. In addition, for Units SG01 and SG02, the permit defines as an excursion requiring corrective action any 3-hour block average during which the arithmetic average opacity, as measured by the COMS, exceeds 40 percent. Permit Condition 6.1.7.c. For parametric monitoring of the main stacks, the permit requires the Permittee to install and operate a continuous monitoring system (CMS) for the measurement of the sparger tube liquid submergence level in the scrubber vessels for Units SG01 and SG02. Permit Condition 5.2.2. Performance criteria pertaining to the sparger tube liquid submergence level are provided in Permit Conditions 5.2.6 and 5.2.7. The permit defines an excursion requiring corrective action for the FGDs as a 3-hour-average scrubber vessel sparger tube liquid submergence level less than 5.0. Permit Condition 6.1.7.c.iv).

The rationale for the monitoring selected to assure compliance with applicable PM limits is provided in the permit, the permit narrative, and in Plant Wansley's CAM plan (attached to the permit application and included in the permit record). For the bypass stacks, the permit narrative explains that COMS are the primary indicator that the ESP is operating properly. Plant Wansley Permit Narrative at 26. The narrative reports: "It has been determined that the opacity cap levels indicating unacceptable performance are: for Unit 1, a three-hour average of 40% opacity and for Unit 2, a three-hour average of 40% opacity." *Id.* For the main stacks, the permit narrative explains that the FGD scrubber is designated as the primary control device to achieve compliance with the PM standard. The narrative further

explains that the primary indicator that the FGD scrubber is working properly is the sparger tube liquid submergence level in the FGD vessel for each unit. *Id.* According to Plant Wansley's CAM plan dated 1/26/2009: "Test data indicates particulate matter emissions will be well below the permit limit even with the ESP out of service if the JBR sparger tubes submergence level is maintained at or above 5.0 inches of liquid." Wansley CAM Plan at 4. The CAM plan includes a table summarizing test data showing the relationship between particulate matter emissions and the JBR sparger tube submergence level. *Id.* at 7.

Plant McIntosh.

In response to comments, Georgia EPD explained that there is no requirement to install PM CEMS on Plant McIntosh's steam generating unit (unit SG01), and that "PM testing requirements in Condition 4.2.1 and the operation of the Continuous Opacity Monitoring Systems (COMS) are sufficient monitoring requirements to ensure this facility will be able to comply with the PM and opacity emissions limits." Plant McIntosh RTC at 9. The Plant McIntosh permit requires PM testing of SG01 annually unless previous test results were less than 50 percent of the limit of 0.18 lb/MMBtu, in which case the testing can be delayed no more than 12 months. Permit Condition 4.2.1a. The Permittee must monitor opacity continuously with a dedicated COMS. Permit Condition 5.2.1.a. Performance criteria for the COMS are identified in Permit Condition 5.2.12. The permit identifies as an exceedance "[a]ny six-minute period during which the average opacity, as measured by the COMS for the steam generating unit (Emission Unit ID SG01) exceeds 40 percent." Permit Condition 6.1.7.b.iv. The permit explains that an excursion requiring corrective action occurs when "any three-hour block average during which the arithmetic average opacity, as measured by the COMS, exceeds 28 percent (for combustion of fuel which does not include Pine Branch coal) or 22.5 percent (for combustion of fuel which includes Pine Branch coal)." Permit Condition 6.1.7.c.i.

The rationale for COMS as a PM monitoring approach is provided in the permit, the permit narrative, and in Plant McIntosh's CAM plan (attached to the permit application and included in the permit record). The permit narrative explains that the steam generating unit is controlled by an ESP, and the primary indicator of proper control device operation for particulate matter is a COMS. Permit Narrative at 25. Thus, the narrative explains that a COMS will be used to assure compliance with the opacity standard as well as the PM standard. McIntosh Permit Narrative at 22. More specifically, the permit narrative explains: "To assure compliance with the particulate standard, an Opacity Index Value was established for SG01. The Opacity Index Value is the opacity level at which particulate matter emissions would be expected to be at or near the allowable limit (0.18 pounds per million Btu) and was established by correlating test data from previous PM emissions tests with the corresponding opacity levels during the testing." *Id.* at 22. The narrative further explains: "It has been determined that the opacity cap level indicating unacceptable performance is a three-hour average of 28% opacity." Narrative at 25. The Plant McIntosh CAM plan dated 7/30/2004 explains that when opacity is below 28%, "test data indicates a reasonable assurance that the PM emissions will be less than the permit limit." CAM Plan at 4. The plan further explains: "If the three-hour opacity average approaches 28%, action will be taken to reduce the average as soon as possible. If the 3-hour opacity average exceeds 28%, a CAM excursion has occurred." [24] *Id.* According to the plan: "The CAM opacity cap was established by measuring the particulate emissions at different opacity levels in the ESP exhaust … No changes have taken place that

[24] The permit narrative for the 2007 Plant McIntosh title V permit renewal (Permit No. 4911-103-0003-V-02-0) explains that the more stringent CAM excursion opacity level applicable when the plant is using Pine Branch coal is in accordance with Consent Order No. EPD-AQC-1596 executed on April 28, 2000. 2007 Renewal Permit Narrative at 16. The narrative for the 2012 Plant McIntosh renewal permit at issue in this order includes a table referencing the 2007 title V permit renewal action. Plant McIntosh Narrative at 3.

could result in a significant change in the precipitator performance or the selected indicator since the compliance or performance test was conducted." *Id.*

Correlation Between PM and Opacity

Regarding the Petitioners' claim that the permit records lacked a source-specific correlation between opacity and PM emissions—or, in the case of Plant McIntosh, that the record lacked an adequate correlation that would be reconfirmed in future stack tests—this claim was not raised with reasonable specificity in comments to Georgia EPD on the draft permits. Nor is there any demonstration in the petitions that it was impracticable to do so or evidence that the grounds arose after the comment period. As discussed above, under CAA § 505(b)(2): "The petition shall be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided by the permitting agency (unless the petitioner demonstrates in the petition to the Administrator that it was impracticable to raise such objections within such period or unless the grounds for such objection arose after such period)." Accordingly, I deny the Petitioners' correlation claim on procedural grounds. However, as noted above, Georgia Power's CAM plan for each plant does show the correlation between opacity and PM emissions.

PM Monitoring Adequacy

Regarding the Petitioners' claim that the overall approach to PM monitoring set forth in the permits is insufficient to assure compliance with applicable PM limitations, the Petitioners have not met their burden of demonstrating that the PM monitoring is insufficient. The suite of monitoring requirements included in each permit as described above, including PM stack testing and parametric monitoring (continuous opacity monitoring, and where appropriate and necessary, other parametric monitoring of control equipment) is consistent with the monitoring approach we reviewed in a number of orders. *See In re Wisconsin Public Service Corporation's JP Pulliam Power Plant*, Petition V-2012-01 (Jan. 7, 2013); *In re Public Service Company of Colorado, dba Xcel Energy, Hayden Station*, Petition VIII-2009-01 (March 24, 2010), at 5. *In re Public Service Company of Colorado, dba Xcel Energy,Pawnee Station*, Petition VIII-2010-XX (June 30, 2011), at 12; *In re Public Service Company of Colorado, dba Xcel Energy, Cherokee* Station, Petition VIII-2010-XX (September 29, 2011), at 11; *In re Public Service Company of Colorado, dba Xcel Energy, Valmont Station*, Petition VIII-2010-XX (September 29, 2011), at 10. While the Petitioners insist that the permits' stack testing requirements are insufficient to assure compliance with short-term PM limits, the Petitioners fail to demonstrate the inadequacy of the associated parametric monitoring described in the CAM plans and included in the permits as part of the broader suite of PM monitoring. Likewise, the Petitioners' contention that the COMS monitoring is ineffective due to the lack of a source-specific correlation between opacity and PM emissions is not supported by the record; as discussed above, the CAM plan for each facility provides this source-specific correlation. These plans were included in the permit records and were available for public review during the public comment period.[25]

As mentioned above, under title V a petitioner has the burden to demonstrate to the EPA that a permit is not in compliance with the requirements of the Act. *Sierra Club v. Johnson, 541 F.3d 1257, 1266-1267*

[25] As explained above, the correlation issue was not raised with reasonable specificity in comments to the Georgia EPD on the draft permits, and therefore, the EPA is denying the correlation claims on procedural grounds. Alternatively, even if the correlation claims had been raised with reasonable specificity in comments on the draft permits, the EPA denies the correlation claims on the basis that the Petitioners did not demonstrate the inadequacy of the correlations provided in the CAM plans, which were available in the permit records.

(11th Cir. 2008); Citizens Against Ruining the Environment v. EPA, 535 F.3d 670, 677-678 (7th Cir. 2008); Sierra Club v. EPA, 557 F.3d 401, 406 (6th Cir. 2009); McClarence v. EPA, 596 F.3d 1123, 130-31 (9th Cir. 2010) (discussing the burden of proof in title V petitions). Because the Petitioners simply challenge the lack of CEMS and the frequency of stack testing without addressing the overall monitoring scheme for the PM limits in the permits, the Petitioner failed to demonstrate that the monitoring requirements in the permit are insufficient to assure compliance with the PM limits. Furthermore, contrary to the Petitioners' contention, the permit record for each of the permits provides the rationale for the selected monitoring regime. Therefore, I deny the Petitioners' request for an objection to the permits based on alleged deficiencies in the permits' PM monitoring requirements and the purported lack of an explanation in the permit record for the selected PM monitoring approach.

Claim 4: Petitioners' Claim that Permits Must Include Provisions to Control Fugitive Dust from the Coal, Ash and Material Handling Systems.

Petitioners' Claims. In their petitions on the Plants Hammond, Kraft, McIntosh, Wansley and Scherer permits, the Petitioners claim that the permits lack "the specific, enforceable best management practices necessary to eliminate or minimize fugitive dust" generated from the facilities' various coal, ash and material handling operations (the specific operations vary depending upon the facility). The Petitioners allege three deficiencies related to this issue. The Petitioners allege that this lack of specificity contravenes Georgia SIP Rule 391-3-1-.02(2)(n)1, which "includes a non-exhaustive list of specific control devices and practices that should be applied to the facility and detailed in its Title V permit as enforceable conditions." The Petitioners also state that the condition in each permit requiring the facilities to take "reasonable precautions" is vague and unenforceable. According to the Petitioners, the permits should specify "[t]he required frequency, quantity and duration of dust suppression techniques." Finally, the Petitioners contend that the permits do not include monitoring and reporting of control devices and practices to demonstrate compliance with the twenty percent opacity limit in Georgia SIP Rule 391-3-1-.02(2)(n)2. *See* Plant Scherer Petition at 20-21, Plant Hammond Petition at 11-12, Plant Kraft Petition at 4-5, Plant McIntosh Petition at 9-10, Plant Wansley Petition at 12-13.

EPA's Response. For the reasons provided below, I grant the Petitioners' request for an objection to the permits based on deficiencies in the permit conditions implementing the fugitive dust control requirements of Georgia SIP Rule 391-3-1-.02(2)(n).

The permits' fugitive dust control requirements are taken directly from Georgia SIP Rule 391-3-1-.02(2)(n). This SIP provision requires source operations which may generate fugitive dust to "take all reasonable precautions to prevent such dust from becoming airborne." This provision identifies "[s]ome reasonable precautions which could be taken to prevent dust from becoming airborne," (Georgia SIP Rule 391-3-1-.02(2)(n)1 (emphasis added)), but the SIP does not specifically require that a source take a specific action. Thus, the lack of a condition in the permits requiring that the sources take the precautions identified in the rule does not contravene the SIP. However, the EPA determines that the Petitioners met their burden of demonstrating that without details regarding what type of actions qualify as "reasonable precautions" to control fugitive dust at these facilities, the permits do not assure compliance with Georgia SIP Rule 391-3-1-.02(2)(n)1.

Under CAA § 504(a), "[e]ach permit issued under this subchapter shall include enforceable emission limitations and standards…and such other conditions as are necessary to assure compliance with the applicable requirements of this chapter, including the requirements of the applicable implementation plan." Likewise, the EPA's regulations specify that each Title V permit must include "[e]missions

limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of permit issuance." 40 C.F.R. § 70.6(a)(1) (emphasis added). *See also* 40 C.F.R. § 70.6(c)(1).

The "reasonable precautions" requirement at Georgia SIP Rule 391-3-1-.02(2)(n)1 is an "applicable requirement" for title V purposes. While the SIP regulation identifies various fugitive dust control methods that may constitute "reasonable precautions," it does not mandate the use of any of these methods. For a title V permit to assure a particular source's compliance with this requirement, consistent with 40 C.F.R. § 70.6(a)(1) and the approved Georgia title V program at Georgia Air Quality Rule 391-3-1-.03(10), the permit terms must specify the emissions limitations and standards, including those operational requirements and limitations that assure compliance with the applicable requirement in Georgia SIP Rule 391-3-1-.02(2)(n)1. I find that the Petitioners demonstrated a flaw in the permit.

Because there can be many different interpretations of what constitutes "reasonable precautions" to control fugitive dust, the State's contention that the Petitioners' concerns are addressed by a permit condition requiring that the facility record steps taken to control fugitive emissions is inapposite in light of the permit's lack of specificity.[26] Likewise, while the State points out that the permits also require compliance with the SIP's 20 percent opacity limit, the State fails to explain how the existence of the opacity limit assures compliance with the "reasonable precautions" standard and there is no such explanation in the permit records.

In response to this Order, the EPA directs Georgia EPD to take action to include in the title V permits for Plants Hammond, Kraft, McIntosh, Wansley and Scherer emissions limitations and standards, including those operational requirements and limitations that assure compliance with Georgia SIP Rule 391-3-1-.02(2)(n)1.[27] In addition, Georgia EPD must provide a rationale in the permit record explaining why the permit conditions are sufficient to assure compliance with Georgia SIP Rule 391-3-1-.02(2)(n)1,including necessary monitoring, recordkeeping and reporting. The EPA notes that the Plant Scherer permit includes a wet suppression requirement under the applicable NSPS (Scherer Permit Condition 6.2.5) that potentially could be construed as sufficient to assure compliance with the reasonable precautions standard at Plant Scherer's railcar unloading area. If Georgia EPD concludes that this requirement is sufficient to assure compliance with Georgia SIP Rule 391-3-1-.02(2)(n)1 at Plant Scherer's railcar unloading area, Georgia EPD must provide the basis for such determination in a rationale included in the permit record.

Finally, regarding whether the permit conditions are sufficient to assure compliance with the 20% opacity limit in Georgia SIP Rule 391-3-1-.02(2)(n)2, I find that the Petitioners have demonstrated that neither the permits nor the permit records indicate how the permits assure compliance with the limit, as required by 40 CFR §§ 70.6(a)(3)(i)(B) and 70.6(c)(1). Though the Petitioners commented to the Georgia EPD that the draft permits "should be subject to monitoring and reporting to demonstrate compliance with a 20 percent opacity limit,"[28] Georgia EPD's response lacks any explanation as to how

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[26] Plant Scherer Permit RTC at 9; Plant Wansley Permit RTC at 7; Plant Kraft Permit RTC at 3; Plant Hammond Permit RTC at 12; Plant McIntosh RTC at 10.

[27] For Plants Hammond, Wansley and Scherer, the affected units are the Coal Handling System (CHS), the Ash Handling System (AHS) and the Materials Handling System (MHS). For Plant Kraft, the affected units are the Coal Handling System (CHS), the Transfer and Loading Equipment, Including the Transloader System (TLS) and the Ash Handling System (AHS). For Plant McIntosh, the affected units are the Coal Handling System (CHS) and the Ash Handling System (AHS).

[28] GreenLaw Comments on draft Wansley Permit dated May 18, 2012, at 21-22; GreenLaw Comments on draft Hammond Permit dated November 14, 2011, at 24; GreenLaw Comments on draft McIntosh Permit dated July 5, 2012, at 15; GreenLaw Comments on draft Scherer Permit dated October 21, 2011, at 21. *See also* Comments by Kurt Ebersbach, et al. on draft Kraft

the permit assures compliance with the opacity limit. While Georgia EPD's response refers to the condition in each of the facilities' permits "to maintain a record of all actions taken … to suppress fugitive dust," Georgia EPD does not explain how that permit condition might relate to assuring compliance with the 20 percent opacity limit. Furthermore, nothing in the permit record indicates that the permit contains monitoring, recordkeeping and reporting obligations sufficient to assure compliance with the 20 percent opacity limit. Therefore, I also grant the petitions on this aspect of the Petitioners' claim. In response to this Order, the EPA directs the Georgia EPD to identify the specific methods and the monitoring to be used by Georgia Power to assure compliance with the 20 percent opacity limit for the fugitive dust sources at Plants Hammond, Kraft, McIntosh, Wansley and Scherer consistent with 40 CFR §§ 70.6(a)(3)(i)(B) and 70.6(c)(1), and provide an adequate rationale for the chosen methods in the permit record.

Claim 5: Petitioners' Claim that the Plant Scherer Permit Must Include Limitations to Comply with both PSD and NNSR.

The Petitioners claim that recent and planned upgrades to Plant Scherer's four steam turbines constitute a "modification" that should have triggered applicability of PSD and NNSR requirements; therefore, the Petitioners claim the Plant Scherer permit is deficient because it omits PSD and NNSR limitations. Scherer Petition at 3-11. The Petitioners further claim that Georgia EPD failed to provide a reasoned analysis of why PSD and NNSR are not applicable to this project. *Id.* According to the Petitioners, Georgia EPD's responses to Sierra Club's comments on the draft permit did not address Sierra Club's concerns, "but rather improperly required additional reporting on the emissions once the project is complete, which is irrelevant to the preconstruction analysis." Scherer Petition at 8. The Petitioners claim that the PSD/NNSR applicability analysis performed by Georgia Power and relied upon by Georgia EPD was flawed because it improperly accounted for emission reductions resulting from installation of pollution controls required by Georgia Rules 391-3-1-.02(2)(sss) and the accompanying SO_2 emission reductions required under Georgia Rule 391-3-1-.02(2)(uuu). Scherer Petition at 3-11. The Petitioners also state that "the required applicability review for PM and SO_2, which contribute to PM2.5 emissions, is properly termed 'new source nonattainment review'" and that the analysis for nonattainment NSR is the same as PSD. Petition at 11. The Petitioners' specific allegations regarding deficiencies in the PSD/NNSR applicability analysis are described in detail below.

1. **Georgia Power Incorrectly Considered Emission Reductions Anticipated from the Facility's Installation of SO_2 Controls Required by Georgia Rules in Determining that the Turbine Project Will Not Cause a Significant Emissions Increase Under Step One of the PSD/NNSR Applicability Analysis.**

Petitioners' Claim: The Petitioners contend that under Step One of the PSD/NNSR applicability analysis,[29] Georgia Power's calculation of whether the turbine upgrade project would result in a "significant emissions increase" improperly considered emission reductions anticipated from Georgia Power's installation of SO_2 controls (simultaneous with the Turbine Upgrade Project) required by Georgia Rule 391-3-1-.02(2)(sss) and accompanying reductions in SO_2 required under Georgia Rule 391-3-1-.02(2)(uuu). Scherer Petition at 7-9. In particular, the Petitioners argue that in applying the

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Permit dated June 6, 2012, at 8-10 (noting that the permit applies the 20 percent opacity standard to the facility's coal handling operations "but does not include the specific, enforceable best management practices necessary to eliminate or minimize fugitive dust from this component of the plant.").

[29] *See* page 23, *infra*, for an explanation of the two-step analysis for determining PSD and NNSR applicability.

"actual-to-projected-actual" methodology for determining whether the Turbine Upgrade Project would result in a "significant emissions increase," Georgia Power incorrectly subtracted the emission reductions anticipated to be achieved by the installation of emission controls from the Turbine Upgrade Project's "projected actual emissions."[30] Scherer Petition at 9.

According to the Petitioners, Georgia Power should not have considered the emission reductions obtained from anticipated compliance with Georgia Rules 391-3-1-.02(2)(uuu) and (sss) in calculating the project's "projected actual emissions" because these emission reductions are "unenforceable." Scherer Petition at 9. Specifically, the Petitioners contend that "the reductions are not enforceable as a practical matter, because neither rule is enforceable during periods of allowable excess emissions (broadly defined periods of startup, shutdown and malfunction), and there is no requirement for continuous monitoring during such episodes." Scherer Petition at 10.

The Petitioners also contend that if the emission reductions resulting from Georgia Power's installation of SO_2 controls to comply with state regulatory requirements are in fact enforceable, Georgia Power should have adjusted the "baseline actual emissions"[31] used in the "actual-to-projected actual" calculation downward to reflect the required emission reductions. Scherer Petition at 9. Citing to 40 C.F.R. § 52.21(b)(48)(ii)(c)[32] and Georgia's PSD Guidance, the Petitioners contend that "baseline actual emissions" must be adjusted downward to account for any "new emissions limitations with which the source must currently comply."[33] *Id.* The Petitioners state that if Georgia Rules (uuu) and (sss) are enforceable, then they constitute "emission limitations with which the source must currently comply" and therefore must be accounted for in the facility's "baseline actual emissions." *Id.*

In sum, regarding consideration of the emission reductions anticipated from compliance with Georgia Rules (uuu) and (sss), the Petitioners contend that "either the limits were enforceable and should have been subtracted from the baseline emissions rate; or the emissions [reductions] were not enforceable and should not have been subtracted from the final actual annual emissions post-project." Scherer Petition at 9. According to the Petitioners, "either result would have made the baseline actual emissions and the

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[30] Under Georgia's SIP-approved PSD rules at Georgia Rule 391-3-1.02(7)(a)2.(ii)(I), the term "Projected actual emissions" is defined as "the maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated NSR pollutant in any one of the five years (12-month period) following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project involves increasing the emissions unit's design capacity or its potential to emit that regulated NSR pollutant and full utilization of the unit would result in a significant emissions increase or a significant net emissions increase at the major stationary source." This definition also is incorporated into Georgia's SIP-approved NNSR rules at Georgia Rule 391-3-1-.03(8)(g)1.

[31] Georgia's SIP-approved PSD rules (at Georgia Rule 391-3-1.02(7)(a)2.(i)(I)) define "Baseline actual emissions" for an existing electric utility steam generating unit as "the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding when the owner or operator begins actual construction of the project." This definition also is incorporated into Georgia's SIP-approved NNSR rules at Georgia Rule 391-3-1-.03(8)(g)1.

[32] 40 C.F.R. § 52.21(b)(48)(ii)(c) applies to "existing emissions units (other than an electric utility steam generating unit)" and requires that in calculating "baseline actual emissions," the "average rate shall be adjusted downward to exclude any emissions that would have exceeded an emission limitation with which the major stationary source must currently comply."

[33] It should be noted that 40 C.F.R. § 52.21(b)(48)(i), which applies to existing electric utility steam generating units, does not require that "baseline actual emissions" be adjusted downward to account for new emission limitations with which the source must "currently comply;" but Georgia's PSD and NNSR regulations for existing electric utility steam generating units do require this adjustment. *See* Georgia Rule 391-3-1.02(7)(a)2.(i)(I).VI. ("The average rate shall be adjusted downward to exclude any emissions that would have exceeded an emission limitation with which the major stationary source must currently comply, had such major source been required to comply with such limitations during the consecutive 24-month period."); *see also* Georgia Rule 391-3-1-.03(8)(g)1 (incorporating this language in Georgia's NNSR regulations).

projected annual emissions or potential to emit much closer, and would likely have resulted in a finding of significant emissions increase." *Id.*

Finally, the Petitioners contend that by counting the emission reductions obtained from anticipated compliance with Georgia Rules 391-3-1-.02(2)(uuu) and (sss) in Step One of the PSD/NNSR applicability analysis, "Georgia Power incorrectly collapsed both the significant emissions increase and significant net emissions increase steps into one step." Scherer Petition at 8. The Petitioners state that "because it appears that Georgia Power incorporated incorrect emissions reductions into its collapsed version, it is likely that a more-detailed analysis would uncover that Georgia Power's changes have resulted in triggering PSD and limitations related to that program must be incorporated into the Permit." *Id.*

EPA's Response. For the reasons provided below, I deny the Petitioners' request for an objection to the permit on this claim. The Petitioners failed to demonstrate that in determining that Plant Scherer's Turbine Upgrade Project did not trigger PSD/NNSR requirements, Georgia EPD did not comply with its SIP-approved regulations governing PSD/NNSR permitting or that Georgia EPD's exercise of discretion under such regulations was unreasonable or arbitrary.

First, regarding the Petitioners' claim that the emission reductions associated with compliance with Georgia Rules (uuu) and (sss) cannot be considered in the "projected actual emissions" determination because these reductions are (allegedly) unenforceable, neither the Petitioners nor any other commenter raised this issue with reasonable specificity in their comments to Georgia EPD on the draft permit. Nor do the Petitioners demonstrate that it was impracticable to raise this argument, and there is no basis for finding that grounds for such argument arose after the comment period. Thus, I deny this aspect of the Petitioners' claim on procedural grounds. CAA § 505(b)(2), 42 U.S.C. § 7661d(b)(2). However, the issue of whether controls or their effect on emissions must be "enforceable" to be considered in determining a unit's "projected actual emissions" is relevant to the EPA's response to the Petitioners' claim that Georgia Power's consideration of emission reductions resulting from the installation of controls improperly collapsed Steps One and Two of the PSD/NNSR applicability analysis. Therefore, the EPA addresses this issue below.

Second, neither the Petitioners nor any other commenter raised with reasonable specificity in their comments to Georgia EPD on the draft permit the argument that the project's "baseline emissions" should have been lowered to account for emission reductions attributable to compliance with Georgia Rules (uuu) and (sss). While comments to Georgia EPD on the draft Plant Scherer permit generally alleged that Georgia Power "took into account the effect of such other projects as the installation and operation of the SCR and scrubber systems required to be installed under Rule (sss), and the accompanying reductions in SO_2 emissions required under rule (uuu)," (GreenLaw comments at 10), the Petitioners did not specifically allege that the baseline should have been lowered. Rather, the Petitioners' comments focused on the argument that in Step One of the applicability analysis, emission decreases associated with pollution control projects and accompanying limits cannot be considered. *See* GreenLaw Comments at 12. The Petitioners did not demonstrate that it was impracticable to raise its concern regarding the "baseline emissions" calculation in its comments on the draft permit, and there is no basis for finding that grounds for this argument arose after the comment period. Accordingly, I also deny this aspect of the Petitioners' claim on procedural grounds. CAA § 505(b)(2), 42 U.S.C. § 7661d(b)(2).

The EPA has noted the importance of the requirement that petitioners raise issues with reasonable specificity to the state permitting authority:

As the EPA stated in the proposal to the original title V regulations:

> The EPA believes that Congress did not intend for Petitioners to be allowed to create an entirely new record before the Administrator that the State has had no opportunity to address. Accordingly, the Agency believes that the requirement to raise issues 'with reasonable specificity' places a burden on the Petitioner, absent unusual circumstances, to adduce before the State the evidence that would support a finding of noncompliance with the Act.

56 Fed. Reg. 21712, 21750 (1991). Thus, a title V petition should not be used to raise issues to the EPA that the State has had no opportunity to address, and the requirement to raise issues 'with reasonable specificity' places a burden on the petitioner, absent unusual circumstances, to adduce before the State the evidence that would support a finding of noncompliance with the Act. *Id.*

In the Matter of Luminant Generating Station, Petition No. VI-2011-05, Order on Petition, August 28, 2011 at 5.

Finally, regarding the Petitioners' more general claim that Georgia Power's consideration of the emission reductions expected from the installation of controls pursuant to Georgia Rules (uuu) and (sss) incorrectly collapsed Step One (the significant emissions increase) and Step Two (significant net emissions increase) steps into one step, I find that the Petitioners did not make the demonstration necessary to support that claim. As explained below, based on the EPA's review of the permit record and the applicable legal requirements, I find that the Petitioners have not demonstrated that it was inappropriate for Georgia Power to consider the effect of the pollution controls installed pursuant to Georgia Rules (uuu) and (sss) in Step One of the PSD/NNSR applicability analysis for Plant Scherer's Turbine Upgrade Project.[34]

When determining if a project at an existing major source is a "major modification"[35] that triggers PSD or NNSR requirements, it is necessary to first evaluate whether the project will result in a "significant emissions increase" (Step One). One option for making this determination is to apply the "actual-to-projected-actual" test.[36] This is the option used by Georgia Power to determining whether PSD and

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[34] The basis for Georgia Power's determination that the Turbine Upgrade Project did not trigger PSD or NNSR appears in the narratives accompanying the two permit revisions that address the project. *See* Narrative for Permit Revision #4911-207-0008-V-02-A (addressing turbine upgrades for Units SG01, 02 and 04); Narrative for Permit Revision #4911-207-0008-V-02-7 (addressing turbine upgrade for Unit SG03). Both narratives are available on Georgia EPD's website at *http://airpermit.dnr.state.ga.us/gaairpermits/.*

[35] 40 C.F.R. § 52.21(b)(2)(i) [incorporated by reference in Georgia's SIP-approved PSD regulations at Rule 391-3-1.02(7)(a)2] defines "[m]ajor modification" as "any physical change in or change in the method of operation of a major stationary source that would result in: a significant emissions increase (as defined in paragraph (b)(40) of this section) of a regulated NSR pollutant (as defined in paragraph (b)(50) of this section); and a significant net emissions increase of that pollutant from the major stationary source." This definition also is incorporated into Georgia's SIP-approved NNSR rules at Georgia Rule 391-3-1-.03(8)(g)1.(ii), with some adjustments that are not relevant to this order.

[36] Under 40 C.F.R. § 52.21(a)(2)(iv)(c), which is incorporated by reference into Georgia's SIP-approved PSD regulations at Rule 391-3-1.02(7)(a)3 , the "actual-to-projected actual" applicability test for projects that involve existing emissions units is as follows: "A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the projected actual emissions . . . and the baseline actual emissions, for each existing emissions unit, equals or exceeds the significant amount for that pollutant." Georgia's SIP-approved NNSR rules at Georgia Rule 391-3-1-.03(8)(g)2. incorporate by reference the same language.

NNSR requirements applied to its Turbine Upgrade Project.[37] Under this test, the "baseline actual emissions" for each emission unit to be modified are subtracted from the unit's "projected actual emissions" (determined based on projected emissions after the unit resumes regular operations following the project's completion). The emissions change from any emission units for which the "actual-to-projected-actual" calculation shows an increase are then summed to determine the project's overall projected emissions increase. This sum is compared to the appropriate "significant emissions rate" for each pollutant. For all pollutants that have a "significant emissions increase," the PSD/NNSR applicability analysis goes forward to Step Two, where the "significant net emissions increase" is determined.

Georgia's SIP-approved PSD and NNSR regulations contain definitions for "baseline actual emissions" and "projected actual emissions," which include a basic definition and several required "adjustments" for each of these calculations. The definition that is most relevant here is that "projected actual emissions" is defined at its base as "the maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated NSR pollutant in any one of the five years (12-month period) following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project involves increasing the emissions unit's design capacity …."[38]

For Plant Scherer's Turbine Upgrade Projects[39], Georgia Power (and in turn Georgia EPD) based "projected actual emissions" on the maximum annual rate at which the affected emissions unit is projected to emit a regulated NSR pollutant in any one of the 10 years (12-month period) following the date the unit resumes regular operation after the project, consistent with the regulations cited above.[40] As noted above, this emissions projection included consideration of the effect of pollution controls installed pursuant to Georgia Rules (uuu) and (sss).

In determining a unit's "projected actual emissions," the existence of pollution controls on a unit is considered part of the unit's operational capabilities; therefore, the anticipated effect of the controls on the unit's post-project emissions can be considered if the controls will be installed and operating during the time period selected for the emissions calculation. The "projected actual emissions" calculation is a prediction of the unit's future emissions and is not meant to become an enforceable limit. *See* Letter from Stephen Page, EPA, to David Isaacs, Semiconductor Industry Assn., dated August 26, 2011 at 9 ("[W]hen calculating projected actual emissions, in addition to considering legally enforceable restrictions, owners or operators may consider the effect on emissions of design or operational parameters, including air pollution control equipment, that are not enforceable."). This is consistent with the EPA's statement in the preamble to the EPA's 2002 revisions to its NSR regulations, which confirms that the EPA was not requiring that a source's projected actual emissions become an enforceable limit.

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[37] *See* Plant Scherer RTC at 5.

[38] Georgia's SIP-approved PSD regulations define "Baseline actual emissions" at Georgia Rule 391-3-1.02(7)(a)2.(i) and "Projected actual emissions" at Georgia Rule 391-3-1.02(7)(a)2.(ii). Georgia's SIP-approved NNSR regulations at Georgia Rule 391-3-1-.03(8)(g)1 incorporate these same definitions.

[39] *See* page 7-8 of the Background Section of the Order, which describes the dates of the turbine upgrades and the installation of required controls.

[40] *See* Letter from Georgia Power to Georgia EPD dated October 23, 2009 for Unit SG03 (supplement to application for permit amendment # 4911-207-0008-V-02-7, submitted in response to Georgia EPD request for additional information); Letter from Georgia Power to Georgia EPD dated November 17, 2009 for Unit SG02 (supplement to application for permit amendment # 4911-207-0008-V-02-A, submitted in response to Georgia EPD request for additional information); *see also* Permit 4911-207-0008-V-03-0, at 39-40, Conditions 6.2.20 and 6.2.21 (for all four units, requiring Georgia Power to calculate and maintain a record of annual emissions for a period of ten years following resumption of regular operations after installation of the upgraded steam turbines and control equipment, and requiring retention records associated with the initial PSD/NNSR non-applicability determination for 15 years following resumption of regular operations after the changes.).

67 Fed. Reg. 80186, 80197 (Dec. 31, 2002). There, the EPA explained that rather than making the unit's projected actual emissions an enforceable limit, a facility's projected actual emissions must be tracked against the facility's actual post-change emissions for five years following resumption of regular operations (or ten years if one of the effects of the physical or operational change is to increase a unit's design capacity or potential to emit), if there is a reasonable possibility that a project will cause a significant emissions increase. *Id.* at 80192. This directly refutes the Petitioners' assertions that Georgia EPD "improperly required additional reporting on the emissions once the project is complete, which is irrelevant to the pre-construction analysis" (Scherer Petition at 8) and that Georgia EPD's reliance on monitoring to confirm the accuracy of Georgia Power's emissions projection was "incorrect under the PSD regulations" (Scherer Petition at 9).[41] To the contrary, this is the way the EPA's NSR regulations are intended to work. The permit record indicates that Plant Scherer's turbine upgrades and the installation of pollution controls to comply with Georgia Rule (sss) are changes to the same emission unit (*i.e.*, the boiler/steam turbine or EUSGU). The record further indicates that Georgia Power planned to undertake the turbine upgrades and pollution control installation as part of the same renovation project during the same shutdown period, and that the controls will be installed and operating when the source resumes regular operation after the project's completion.[42] The Petitioners offer nothing rebutting information in the permit record indicating that the controls will be installed and operating during the time period selected by Georgia Power for use in its "projected actual emissions" calculation.[43] The Petitioners provided no additional demonstration concerning the NNSR applicability review for PM and SO_2 emissions related to this claim. Thus, I find that the Petitioners did not demonstrate that it was inappropriate for Georgia Power to consider the emission reductions anticipated from the installation of controls in calculating the units' "projected actual emissions" under Step One of the PSD/NNSR applicability analysis.[44] For the foregoing reasons, I deny the petition on these issues.

2. Georgia Power Cannot Take Credit for Emission Decreases Associated with Georgia Rules (sss) and (uuu) in Determining Whether the Project Will Cause a Net Emissions Increase under Step Two of the PSD/NNSR Applicability Analysis.

Petitioners' Claim. The Petitioners contend that if Georgia Power took credit for decreases associated with Rules (sss) and (uuu) in determining the project's net emissions increase under Step Two of the PSD/NNSR applicability analysis, this was improper because neither rule is enforceable during periods of allowable excess emissions and there is no requirement for continuous monitoring during such

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[41] In response to comments on the draft Plant Scherer permit, Georgia EPD explained that to address the commenters' concerns, "the Division has added Conditions 6.2.20, 6.2.21 and 6.2.22 to require record keeping and reporting of actual emissions that are pertinent to this modification (i.e., the turbine upgrade projects for Units 1, 2, 3 and 4) in accordance with Georgia Rule 391-3-1-.02(7)(b)15.(i)." Scherer Response to Comments, Permit Narrative Addendum at 5. Georgia EPD explained: "These conditions will require the facility to record, maintain and report actual emissions that are pertinent to this modification that justify avoidance of NSR/PSD review and document accuracy of the baseline-actual-to-projected-actual emissions calculations and explain any increases reported." *Id.*

[42] *See* pages 7-8 of the Background Section of this Order.

[43] Petitioners argue that it is not clear whether the emission limits (and control requirements) in Georgia Rules (uuu) and (sss) will be in effect at the time that construction begins (Plant Scherer Petition at 10), but do not dispute that the emission controls will be in effect during the time period following resumption of regular operations that Georgia Power selected for use in the "project actual emissions" determination.

[44] In the section of the Scherer Petition addressing the appropriateness of considering the controls in Step Two of the PSD/NNSR analysis, Petitioners contended that "it is not clear that such limits were or will be in effect 'at and after the time that actual construction on the particular change begins.'" Scherer Petition at 10. This argument does not apply to consideration of the controls in Step One of the analysis, which does not depend on an emission limit being in effect at the time that construction begins but instead turns on whether the controls will be installed and operating as of "the date the unit resumes regular operation after the project." *See* Georgia Rule 391-3-1.02(7)(a)2.(ii) (PSD definition of "projected actual emissions") and Georgia Rule 391-3-1-.03(8)(g)1 (NNSR incorporation by reference of PSD definition).

episodes, and it is not clear that such limits were or will be in effect "at and after the time that actual construction on the particular change begins." Scherer Petition at 10.

EPA's Response. Petitioners' claim does not demonstrate that the permit is not in compliance with the Act. Georgia EPD's determination that the turbine upgrades are not subject to PSD/NNSR was based solely on Georgia EPD's conclusion under Step One of the required analysis that the project will not result in a significant emissions increase. Furthermore, as discussed above, I deny the Petitioners' claims regarding deficiencies in Step One of the analysis. Thus, Petitioners' arguments regarding whether it would be appropriate to consider emission reductions associated with compliance with Georgia Rules (uuu) and (sss) under Step Two of the analysis are irrelevant to the applicability determination. The Petitioners provided no additional demonstration concerning the NNSR applicability review for PM and SO_2 emissions related to this claim. Therefore, I deny the Petitioners' request for an objection to the permit on this claim.

V. CONCLUSION

For the reasons set forth above and pursuant to CAA § 505(b)(2) and 40 C.F.R. § 70.8(d), I hereby grant in part and deny in part the Petitioners' five petitions seeking the EPA's objection to the title V operating permits issued by Georgia EPD for Plants Hammond, Kraft, McIntosh, Wansley and Scherer. I further order actions consistent with 42 U.S.C. § 7661d(e) and 40 C.F.R. § 70.7(g), as described in Section IV, Claim 2.

Dated: APR 14 2014

Gina McCarthy,
Administrator

October 21, 1994

MEMORANDUM

SUBJECT: Classification of Emissions from Landfills for NSR Applicability Purposes

FROM: John S. Seitz, Director
Office of Air Quality Planning and Standards (MD-10)

TO: Director, Air, Pesticides and Toxics Management Division, Regions I and IV
Director, Air and Waste Management Division, Region II
Director, Air, Radiation and Toxics Division, Region III
Director, Air and Radiation Division, Region V
Director, Air, Pesticides and Toxics Division, Region VI
Director, Air and Toxics Division, Regions VII, VIII, IX and X

The EPA has recently received several inquiries regarding the treatment of emissions from landfills for purposes of major NSR applicability. The specific issue raised is whether the Agency still considers landfill gas emissions which are not collected to be fugitive for NSR applicability purposes.

The EPA's NSR regulations define "fugitive emissions" to mean "those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening" (40 CFR 51.165(a)(1)(x)). In general, where a facility is not subject to national standards requiring collection, the technical question of whether the emissions at a particular site could "reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening" is a factual determination to be made by the permitting authority, on a case-by-case basis.

In determining whether emissions could reasonably be collected (or if any emissions source could reasonably pass through a stack, etc.), "reasonableness" should be construed broadly. The existence of collection technology in use by other sources in the source category creates a presumption that collection is reasonable. Furthermore, in certain circumstances, the collection of emissions from a specific pollutant emitting activity can create a presumption that collection is reasonable for a similar pollutant-emitting activity, even if that activity is located within a different source category.

In 1987, EPA addressed whether landfill gas emissions should be considered as fugitive.[1] The Agency explained that for landfills constructed or proposed to be constructed with gas collection systems, the collected landfill gas would not qualify as fugitive. Also, the Agency understood at the time that, with some exceptions, landfills were not constructed with such gas collection systems. The EPA explained that "[t]he preamble to the 1980 NSR regulations characterizes nonfugitive emissions as emissions which would ordinarily be collected and discharged through stacks or other functionally equivalent openings'" (see 45 FR 52693, Aug. 7, 1980).[2] Based on the "understanding that landfills are not ordinarily constructed with gas collection systems," the Agency concluded that "emissions from existing or proposed landfills without gas collection systems are to be considered fugitive emissions." The Agency also made clear, however, that the applicant's decision on whether to collect emissions is not the deciding factor. Rather, it is the reviewing authority that makes the decision regarding which emissions can reasonably be collected and therefore not considered fugitive.

The EPA believes its 1987 interpretation of the 1980 preamble may have been misunderstood, and in any case that its factual conclusions at that time are now outdated. Continued misunderstanding or application of this outdated view could discourage those constructing new landfills from utilizing otherwise environmentally- or economically-desirable gas collection and mitigation measures in order to avoid major NSR applicability.

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[1]See memorandum entitled "Emissions from Landfills," from Gerald A. Emison, Director, Office of Air Quality Planning and Standards, to David P. Howekamp, Director, Air Management Division, Region IX, dated October 6, 1987 (attached). It is important to note that the interpretation contained in this memorandum was only applicable to landfills.

[2]In fact, the 1980 preamble language recognized the concern that sources could avoid NSR by calling emissions fugitives, even if the source could capture those emissions. The EPA's originally-proposed definition of fugitive emissions was changed in the final 1980 regulations to "ensure that sources will not discharge as fugitive emissions those emissions which would ordinarily be collected and discharged through stacks or other functionally equivalent openings, and will eliminate disincentives for the construction of ductwork and stacks for the collection of emissions." Id.

Specifically with regard to landfill gas emissions, gas collection and mitigation technologies have evolved significantly since 1987, and use of these systems has become much more common. Increasingly, landfills are constructed or retrofitted with gas collection systems for purposes of energy recovery and in order to comply with State and Federal regulatory requirements designed to address public health and welfare concerns. In addition, EPA has proposed performance standards for new landfills under section 111(b) of the Clean Air Act and has proposed guidelines for existing landfills under section 111(d) that, when promulgated, will require gas collection systems for existing and new landfills that are above a certain size and gas production level (see 56 FR 24468, May 30, 1991). Under these requirements, EPA estimates that between 500 and 700 medium and large landfills will have to collect and control landfill gas. The EPA believes this proposal created a presumption at that time that the proposed gas collection systems, at a minimum, are reasonable for landfills that would be subject to such control under the proposal.

Thus, EPA believes it is no longer appropriate to conclude generally that landfill gas could not reasonably be collected at a proposed landfill project that does not include a gas collection system. The fact that a proposed landfill project does not include a collection system in its proposed design is not determinative of whether emissions from a landfill are fugitive. To quantify the amount of landfill gas which could otherwise be collected at a proposed landfill for NSR applicability purposes, the air pollution control authority should assume the use of a collection system which has been designed to maximize, to the greatest extent possible, the capture of air pollutants from the landfill.

In summary, the use of collection technology by other landfill sources, whether or not subject to EPA's proposed requirements or to State implementation plan or permit requirements, creates a presumption that collection of the emissions is reasonable at other similar sources. If such a system can reasonably be designed to collect the landfill's gas emissions, then the emissions are not fugitive and should be considered in determining whether a major NSR permit is required.

Today's guidance is applicable to the construction of a new landfill or the expansion of an existing landfill beyond its currently-permitted capacity. To avoid any confusion regarding the applicability of major NSR to existing landfills, EPA does not plan to reconsider or recommend that States reconsider the major NSR status of any existing landfill based on the issues discussed in this memorandum. Also, nothing in this guidance voids or creates an exclusion from any otherwise applicable requirement under the Clean Air Act and the State implementation plan, including minor source review.

The Regional Offices should send this memorandum, including the attachment, to States within their jurisdiction. Questions concerning specific issues and cases should be directed to the appropriate Regional Office. Regional Office staff may contact Mr. David Solomon, Chief, New Source Review Section, at (919) 541-5375, if they have any questions.

Attachment

cc: Air Branch Chief, Regions I-X
NSR Contacts, Regions I-X and Headquarters

bcc: L. Wegman
S. Shaver
S. Hitte
E. Lillis
D. Solomon
Cindy Jacobs, OAP
Mark Najarian, MD-13
Susan Thorneloe, MD-63
Julie Domike, OECA

February 10, 1999

MEMORANDUM

SUBJECT: Interpretation of the Definition of Fugitive Emissions in Parts 70 and 71

FROM: Thomas C. Curran, Director /s/
Information Transfer and Program
Integration Division (MD-12)

TO: Judith M. Katz, Director
Air Protection Division, Region III (3AT00)

This is in response to your memorandum of August 8, 1997 and subsequent discussions regarding the definition of "fugitive emissions." Specifically, you asked how this definition applies to the emissions of volatile organic compounds (VOC) from the printing industry, whiskey warehouses, paint manufacturing facilities, and other similar sources for purposes of title V. The delay in getting back to you was principally due to extensive consultation as needed among the various Headquarters and Regional Offices and has resulted in more technically and legally supportable policy.

When counting emissions to determine if a source exceeds the major source thresholds under title V (parts 70 and 71), nonfugitive VOC emissions are always counted. Fugitive VOC emissions, however, are counted only in certain circumstances. Because of this, the determination of whether emissions are fugitive or nonfugitive can be critically important for major source determinations under title V.

The EPA defines "fugitive emissions" in the regulations promulgated under title V as "those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening" (see title 40 of the Code of Federal Regulations, sections 70.2 and 71.2). This definition is identical to the definition of "fugitive emissions" adopted by EPA in the regulations implementing the new source review (NSR)

program. Given this, the precedents established in the NSR program should be relied on in interpreting the definition of "fugitive emissions" for purposes of title V.

In 1987 and again in 1994, EPA issued guidance regarding the classification of emissions from landfills for NSR applicability purposes.[1] In these guidance memorandums, EPA made clear that emissions which *are actually collected* are not fugitive emissions. Thus, for example, when a source is subject to a national standard requiring collection of emissions, these emissions cannot be considered fugitive. Whether or not a source is subject to such a national standard, emissions which pass through a stack, chimney, vent, or other functionally-equivalent opening are not fugitive.

Where emissions are not actually collected at a particular site, the question of whether the emissions are fugitive or nonfugitive should be based on a factual, case-by-case determination made by the permitting authority. As noted in EPA's 1994 guidance,

> In determining whether emissions could reasonably be collected (or if any emissions source could reasonably pass through a stack, etc.), "reasonableness" should be construed broadly. The existence of collection technology in use by other sources in a source category creates a presumption that collection is reasonable. Furthermore, in certain circumstances, the collection of emissions from a specific pollutant emitting activity can create a presumption that collection is reasonable for a similar pollutant-emitting activity, even if that activity is located within a different source category.

Based on the above principles, EPA believes it appropriate to presume that VOC emissions from the printing industry and paint manufacturers could reasonably be collected and thus are

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[1] See memorandums entitled "Classification of Emissions from Landfills for NSR Applicability Purposes" from John S. Seitz, Office of Air Quality Planning and Standards, to Air Division Directors, Regions I-X, dated October 21, 1994, and "Emissions from Landfills" from Gerald A. Emison, Director, Office of Air Quality Planning and Standards, to David P. Howekamp, Director, Air Management Division, Region IX, dated October 6, 1987.

not fugitive. In addition, unless this presumption is rebutted by the source, such emissions should be counted in major source determinations.

We have reached this conclusion for printers and paint manufacturers because certain printers are subject to national standards and State implementation plan (SIP) requirements (e.g., reasonably achievable control technology, best available control technology, or lowest achievable emissions rate) requiring collection. Moreover, sources in both of these source categories commonly employ collection devices. The common use of collection technology by other printing and paint manufacturing sources creates a presumption that collection of emissions is reasonable at other similar sources.

In the case of whiskey warehouses, the presumption that emissions could reasonably be collected is less compelling and may warrant further consideration by States in consultation with the EPA Regional Offices. For example, we are not aware of any national standards or SIP requirements for the collection of VOC emissions from whiskey warehouses, and we believe it is uncommon for them to have voluntarily installed collection devices. On the other hand, EPA is aware of warehouses in other source categories that collect emissions and thus a presumption is created that whiskey warehouse emissions could reasonably be collected. In addition, in a factual determination for a whiskey warehouse in the State of Indiana, EPA Region V found, after careful review, that the emissions of the warehouse were not fugitive.

In addition, you ask whether costs should be a factor used to determine if emissions can be reasonably collected. Obviously, when emissions are actually collected, cost considerations are irrelevant to determine whether emissions are fugitive. On the other hand, when a source does not actually collect its emissions, but there is a presumption that collection would be reasonable, a permitting authority could consider costs in determining whether this presumption is correct. However, when analyzing whether collection is reasonable for a particular source, the permitting authority should not focus solely on cost factors, nor should cost factors be given any more weight than other factors. Instead, the permitting authority should focus on determining whether a particular source is truly similar to the "similar sources" used to create the presumption. This determination can be made by looking at whether there are substantial differences in the technical or engineering characteristics of the sources. In this stage of the analysis, a comparison of the costs of collecting emissions could be relevant where it illustrates the underlying technical or engineering

differences. Moreover, keep in mind that title V does not impose any requirements on subject sources to collect (or control) their emissions and that collection is only assumed for the purpose of determining title V applicability. Thus, no source will ever be required to incur the costs of installing, operating, or maintaining collection devices (or control devices) because of a presumption that its emissions are not fugitive or subsequently because it is found to be subject to title V.

The approach for interpreting the definition of fugitive emissions outlined in this memorandum is consistent with the approach used historically by Headquarters, as well as the majority of EPA Regions and States. We believe, therefore, that the impact of this memorandum will be limited, both in the number of sources for which reclassification of emissions from fugitive to nonfugitive may be required, and to a greater extent, in the number of sources subject to reclassification from minor to major source.

We recognize that this interpretation may present enforcement issues for an unknown (but presumably small) number of sources whose initial title V applicability determinations were overly broad with respect to which emissions they have interpreted as being fugitive. Therefore, EPA recommends that the following steps be taken. If the policies of an EPA Region or State for interpreting the definition of fugitive emissions are consistent with the policies described in this memorandum, then the EPA Region or State should continue to enforce its policies as it has in the past. However, if the policies of an EPA Region or State have not been as inclusive as the policies described in this memorandum, then major sources that have not applied for operating permits on the basis of these less-inclusive policies should be instructed to immediately notify the State and EPA Region in writing of their obligation to obtain a title V permit. Such sources should be instructed to prepare and submit permit applications to the appropriate permitting authority as expeditiously as possible.

The EPA will use its enforcement discretion in deciding whether or not to seek an enforcement action against sources for failure to obtain an operating permit. However, factors that may be considered in deciding whether to seek enforcement action against sources may include whether the sources relied on less inclusive policies of a State or EPA Region and whether the sources expeditiously submit permit applications after they become aware of the national policy described in this memorandum.

If you have any questions, please contact Steve Hitte at 919-541-0886 or Jeff Herring at 919-541-3195 of the Operating Permits Group.

cc: Director, Office of Ecosystem Protection, Region I
Director, Division of Environmental Planning and Protection, Region II
Director, Air, Pesticides, and Toxics Management Division, Region IV
Director, Air and Radiation Division, Region V
Director, Multimedia Planning and Permitting Division, Region VI
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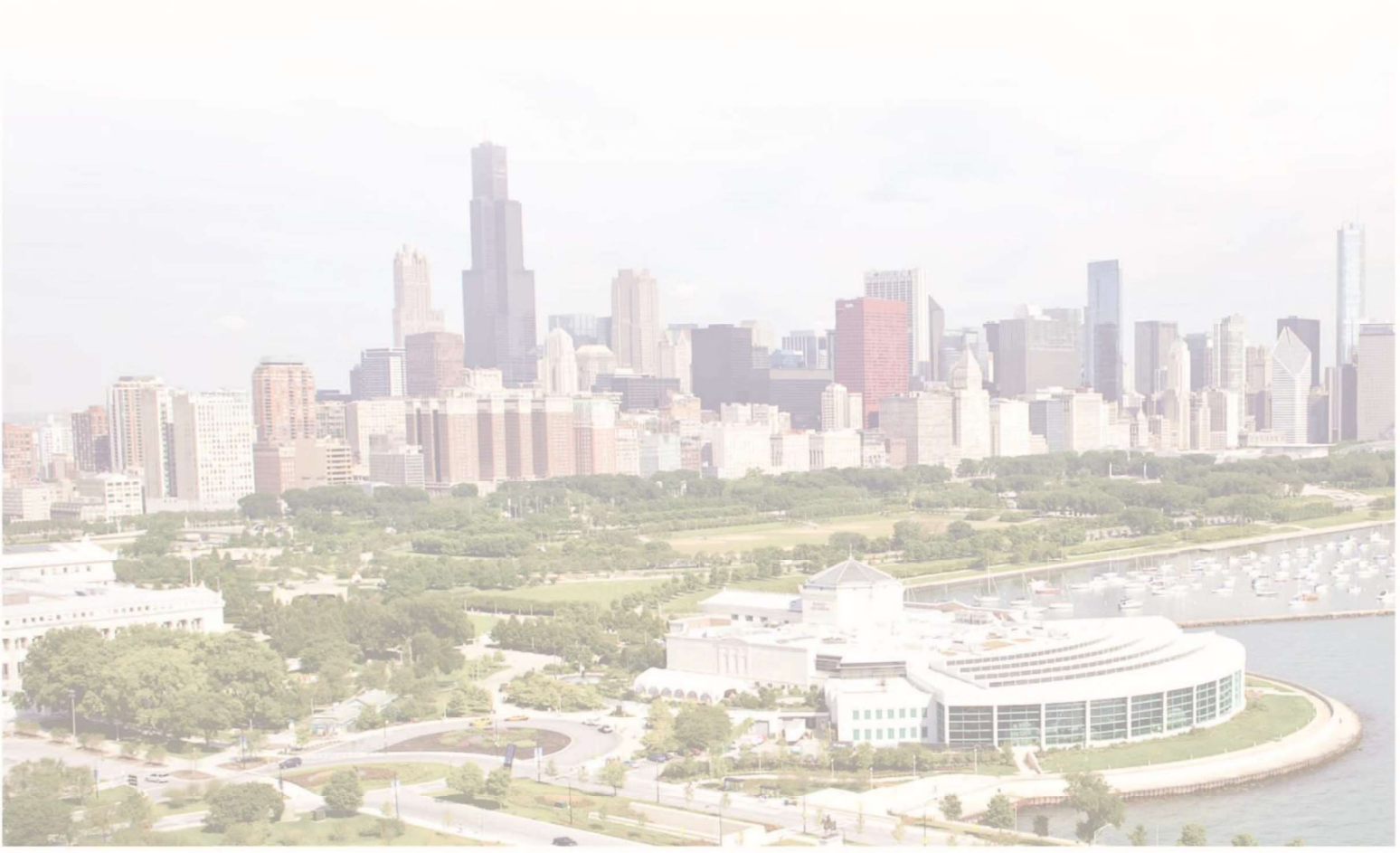
CITY OF CHICAGO

RULES

Rules for Large Recycling Facilities

Effective June 5, 2020



Mayor Lori Lightfoot

Commissioner Allison Arwady M.D.

RULES FOR LARGE RECYCLING FACILITIES OPERATED WITHIN THE CITY OF CHICAGO

Whereas**,** pursuant to Chapters 2-112 and 11-4 of the Municipal Code of Chicago (the Code), the Department of Public Health is charged with the enforcement of environmental rules, including management of Recycling Facilities within the City of Chicago and the protection of public health and safety; and

Whereas, pursuant to the authority granted by Section 2-112-160(b)(6) of the Code, the Commissioner of Health (the "Commissioner") is authorized to issue rules necessary or proper for the implementation of environmental ordinances and to accomplish the purposes of Chapter 11-4 of the Code, and is further authorized to make reasonable administrative and procedural regulations or rules interpreting or clarifying the requirements which are specifically prescribed in Chapter 11-4 of the Code; and

Whereas, this general rule-making authority includes any rules necessary to implement the provisions of Article XX of the Code, Sections 11-4-2510 through 11-4-2680, the "Recycling Facility Ordinance;" and

Whereas, in addition, Section 11-4-2660 of the Code requires the Commissioner to promulgate rules and regulations necessary to implement the provisions of the Recycling Facility Ordinance; and

Whereas, this general rule-making authority also includes any rules necessary to implement Article II of Chapter 11-4 of the Code, Sections 11-4-600 through 11-4-810, the "Air Pollution Control Ordinance"; and

Whereas, Section 11-4-760(e) of the Code authorizes the Commissioner to promulgate additional rules for the proper management of any substance or material that may become airborne or be scattered by the wind; and

Whereas, pursuant to Section 8-32-090(d), the Commissioner is authorized to promulgate rules and regulations to enforce the noise provisions under Section 8-32-090, Part B of Chapter 8-32 of the Code; and

Whereas, this general rule-making authority also includes any rules necessary to implement Article VIII of Chapter 11-4 of the Code, Sections 11-4-1410 through 11-4-1460, "Pollution of Waters"; and

Whereas, the recycling of materials conserves natural resources, reduces energy consumption, saves landfill space, and generally decreases pollution; and

Whereas, such facilities should be located in areas where the surrounding uses are consistent with the industrial nature of Recycling Facilities and should be operated so that the environmental impacts can be minimized; and

Whereas, these facilities can be significant sources of dust, contaminated storm and process water discharges, metal-containing particulate or vapor, and possible radiation with the potential to harm human health and the environment, and cause a public nuisance or adversely impact the surrounding area or surrounding users; and

Whereas, these facilities may present a high risk of fire and explosion; and

Whereas, these facilities may be a significant source of noise; and

Whereas, the triennial operating permits and permit applications required of these Recycling Facilities are an important part of assuring environmentally sound operations; and

Whereas, the furtherance of these goals and principles can be advanced by a more detailed recitation of operational standards, permit application submittal requirements, location standards, and design standards for these Recycling Facilities; now therefore,

BY AUTHORITY VESTED IN THE COMMISSIONER OF THE DEPARTMENT OF HEALTH PURSUANT TO SECTIONS 2-112-160(b)(6), 8-32-090(d), 11-4-760(e), AND 11-4-2660 OF THE MUNICIPAL CODE OF CHICAGO, THE FOLLOWING RULES REGARDING LARGE RECYCLING FACILITIES ARE HEREBY ADOPTED.

By Order of the Commissioner:

Signed:  Date: _6/5/20_____

Commissioner Allison Arwady, M.D.

Published: June 5, 2020
Effective: June 5, 2020

Table of Contents

1. Scope and Purpose

The purpose of these rules is to provide explanations, guidelines, and requirements regarding the operation, location, design, and permitting of a Large Recycling Facility[1] in the City of Chicago. Specifically, these rules address Existing, New, Expanding, and Modifying Large Recycling Facilities that are required to receive operating permits from the Department of Public Health (the Department) under Section 11-4-2520 of the Code. These rules supplement the requirements contained in the Recycling Facility Rules dated March 19, 2014, as amended. In the event of conflicts between the Recycling Facility Rules and these rules, the requirements and standards in these rules shall govern. Only Large Recycling Facilities are covered under these rules.

An application to the Department for a permit to operate a Large Recycling Facility must provide sufficient information to Demonstrate that the Facility will be designed and Operated in a manner that prevents public nuisance and protects the public health, safety, and the environment. The Documentation required to provide such a Demonstration, and the standards that must be met, are set forth in Chapter 11-4 of the Code, the Chicago Environmental Protection and Control Ordinance, and these rules.

These rules provide a minimum standard for the information required in a permit application. Pursuant to the Code, the Commissioner may request additional information, if necessary, due to the complexity of the Facility or to ensure that the Facility will not create a public nuisance and that the public health, safety, and the environment are protected. The information requested in Section 3 of these rules is consistent with the information required pursuant to Section 11-4-2530 of the Code. Information that is required for a New, Existing, Expanding, or Consequential Facility only is indicated as such.

In addition to the permit application standards, these rules contain location, operational, and design standards that are applicable to all Large Recycling Facilities unless specifically exempted. For applications that fall under multiple categories, for example, a Facility that is both a New Facility and a Consequential Facility, all applicable requirements to both categories would apply. In the event of a conflict, the most stringent requirement shall apply.

[1] Capitalized terms are defined in Section 2 below.

2. Definitions

"Applicant" means the Person submitting an application for a permit to the Department to accept, handle, Process, or otherwise manage a Large Recycling Facility.

"ASR Fiber" means the light fibrous fraction in Auto Shredder Residue that is susceptible to becoming windborne.

"Auto Shredder Residue" or "ASR" means the mixture of ferrous metal, non-ferrous metal (e.g., alloys of copper and aluminum), glass, fiber, rubber, automobile liquids, plastics and dirt generated from the shredding of vehicles.

"Closure" means those actions taken by the Owner and/or Operator to cease operations and to ensure that a Facility is closed in a manner that conforms with these rules and all other applicable laws and regulations in effect at the time of such Closure.

"Closure Plan'' means a written plan describing the proposed engineering and other technical measures to be undertaken to terminate operation of a Facility and to render the Site or Facility stable and safe for the public health and environment as well as a description of the proposed utilization of the Site or Facility after Closure is complete.

"Code" or “Municipal Code” means the Municipal Code of the City of Chicago.

"Commissioner'' means the Commissioner of Health of the City of Chicago.

"Confidential Business Information" or "CBI" means Trade Secrets or commercial or financial information that is submitted to the Department under a claim that it is proprietary, privileged, or confidential, the disclosure of which would cause competitive harm.

"Consequential Facility" means a Large Recycling Facility that meets at least one of these criteria:

a) Is located within 660 feet of a Sensitive Area;

b) Has been found in violation of any federal, state, or local air quality law or regulation within the last three years;

c) Conducts the mechanical shredding of vehicles, operates a metal Shredder with a manufacturer-rated capacity of more than 25 tons per hour, or utilizes Mechanical Sorting Equipment in the Processing of ASRs; or

d) Is a Class V Facility.

"Criteria Pollutants" means the airborne pollutants for which the EPA has established National Ambient Air Quality Standards for safe levels of exposure. The current Criteria Pollutants include carbon monoxide, lead, nitrogen dioxides, ground-level ozone, particulate matter, and sulfur dioxide.

"Demonstrate" means to provide sufficient Documentation to validate that the representations made in the application are accurate. A demonstration may include reports, analyses, calculations, modeling, studies, or other information necessary to validate the accuracy and truthfulness of representations made in the application.

"Department" or "CDPH" means the Department of Public Health of the City of Chicago.

"Documentation" means items, in any tangible form, whether directly legible or legible with the aid of any machine or device, that are used to support facts or hypotheses, including but not limited to affidavits, certificates, deeds, leases, contracts or other binding agreements, licenses, permits, photographs, audio or video recordings, maps, geographic surveys, chemical and mathematical formulas or equations, mathematical and statistical calculations and assumptions, research papers, technical reports, technical designs and design drawings, stocks, bonds, and financial records.

"Employee Facilities" means washrooms, toilets, potable water, changing rooms, lunchrooms, showers, and other amenities for employee sanitation and well-being.

"EPA" means the United States Environmental Protection Agency.

"Existing Facility" means a Large Recycling Facility that holds a current and valid operating permit issued by the Department.

"Expanding Facility" means an Existing Facility that has applied for a permit to allow an Expansion.

"Expansion" means an increase in the horizontal or vertical boundary of a Large Recycling Facility or an increase of more than 10% of the permitted capacity of a Facility beyond the limits established in its current permit.

"Facility" means the land and all structures, equipment, and ancillary fixtures on said land used to Process, Store, or Recycle materials, including structures, buildings, scales, roadways, parking areas, queuing areas, fences, Tipping Floors, Processing equipment, Processing Areas, Staging Areas, and monitoring stations.

"Fugitive Dust" means any solid particulate matter that becomes airborne by natural or human-made activities but does not include engine combustion exhaust and particulate matter emitted from a properly permitted exhaust stack equipped with a pollution control device.

"Fugitive Source" means the origin of a non-ducted airborne emission, such as dust from the handling or Storage/Staging of aggregates, wind erosion of Storage/Staging stockpiles, or material re-suspended from roads by traffic.

"Hazardous Air Pollutants" or "HAP" means any hazardous air pollutant listed under Section 112 of the Clean Air Act, as amended.

"Hazardous Waste" means any waste, or combination of wastes, which because of quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in mortality or serious, irreversible, or incapacitating reversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of or otherwise managed, or which has been identified by characteristics or listing as hazardous pursuant to federal and state law including, but not limited to Section 300 I of the Resource Conservation and Recovery Act of 1976, PL 94-580 as amended, the Illinois Environmental Protection Act, or pursuant to regulations promulgated by the Illinois Pollution Control Board.

"IEPA" means the Illinois Environmental Protection Agency.

“Landscape Waste” means grass or shrubbery cuttings, leaves, tree limbs and other materials accumulated as a result of the care of lawns, shrubbery, vines, and trees, and includes any discarded fruits, vegetables, and other vegetative material or crop residue generated in the care of a garden. The term “Landscape Waste” does not include soil other than incidental soil (e.g., soil attached to sod or attached to other materials accumulated as a result of the care of lawns, shrubbery, vines, trees or a garden).

"Large Recycling Facility" means a Facility that is authorized to accept 1,000 tons or more per day of Recyclable Materials operates a metal Shredder that Processes vehicles or that has a rated capacity of greater than 25 tons per hour, or utilizes Mechanical Sorting Equipment in the Processing of ASR. A Large Recycling Facility does not include Recycling activities conducted at a waste transfer station facility operating under a permit issued pursuant to 11-4-250 of the Municipal Code.

"Liquid Waste" means any waste which maintains the physical state of continuous volume relatively independent of pressure and which takes the shape of its container at ambient temperature; or is determined to contain "free liquids" as defined by Method 9095 (Paint Filter

Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846).

"Mechanical Sorting Equipment" means the use of powered sorting equipment such as, but not limited to, magnetic systems, eddy-current systems, and mechanical screens and trommels.

"MS4" or "Municipal Separate Storm Sewer System" means a “conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law)...including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act that discharges into Waters of the United States. (ii) Designed or used for collecting or conveying stormwater; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

"Modification" means one or more physical, operational, or administrative changes that do not constitute an Expansion and that require a permit amendment from CDPH. Such changes include, but are not limited to, an increase or change in the handling or Processing capacity of the Facility of ten percent or less (calculated using the Facility’s permitted capacity on the effective date of these rules or the permitted capacity issued under a New or Expanded permit issued after the effective date of these rules), changes in the nature of the Facility's operations, changes in Facility configuration, changes in the nature of the Process, the addition or removal of stationary equipment or machinery, all capital improvements, and changes necessary to comply with the Consequential Facility requirements under these rules.

"Modifying Facility" means an Existing Facility that is seeking a Modification.

"MWRD" means the Metropolitan Water Reclamation District of Greater Chicago.

"Municipal Waste" means garbage, general household and commercial waste, Landscape Waste, and construction and demolition debris. Municipal Waste includes industrial waste but does not include non-hazardous, Hazardous Waste, or Potentially Infectious Medical Waste.

''National Pollutant Discharge Elimination System" or "NPDES" means the program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits and imposing and enforcing pretreatment requirements under the Clean Water Act (33 USC 1251 et seq.), Section 12(1) of the Environmental Protection Act (415 ILCS 5/12(1)) and 35 Ill. Admin. Code 309, Subpart A, and 35 Ill. Admin. Code 310.

"Near Reference PM 10 Monitor" means a device that measures the level of PM 10 in ambient air and meets or exceeds the specifications contained in Appendix B of these rules, or as otherwise approved by the Commissioner."

"New Facility" means a Large Recycling Facility that does not hold a current and valid recycling facility permit as of the effective date of these Rules.

"NPDES permit" means a permit issued under the National Pollution Discharge Elimination System program.

"One hundred (100) year flood plain" means any land area which is subject to a one percent or greater chance of flooding in a given year from any source.

"One hundred (100) year, 24-hour precipitation event" means a precipitation event of 24-hour duration with a one percent or greater chance of occurring in a given year using Illinois State Water Survey's Bulletin 70 – Frequency Distributions of Heavy Rainstorms in Illinois.

"Operator" means a Person who has charge, care, or control of the Site; who is responsible for the operation and maintenance of the Site; or who is entitled to control or direct the management of the Site.

"Operating Program" shall have the same meaning as ascribed in 35 IAC Part 212.309.

"Operating Record" means a collection of documents maintained at the Facility that includes the recycling permit issued by CDPH; the most recent copy of the application submitted pursuant to Section 3 of these rules; a copy of the Facility's emergency response plans and contingency plans; street sweeping and cleaning logs, Vector control treatments; records of emergencies and acceptance of unauthorized waste; and other information specified to be kept in the Operating Record under these rules and the recycling permit.

"Ordinance" means the City of Chicago Environmental Protection and Control Ordinance, Chapter 11-4 of the Municipal Code of Chicago.

"Owner" means a Person who has an interest, directly or indirectly, in land, including a leasehold interest, on which a Person operates and maintains a Facility. The Owner is the Operator if there is no other Person who is operating and maintaining a Facility.

"Person" means any individual natural Person, trustee, court-appointed representative, syndicate, association, partnership, co-partnership or joint-stock company, limited liability company, trust, estate, firm, club, company, corporation, business trust, institution, agency, government corporation, municipal corporation, city, county, municipality, district or other

political subdivision, department, bureau, agency or instrumentality of a federal state or local government, contractor, supplier, vendor, installer, Operator, user, or owner, or any officers, agents, employees, factors, or any kind of representative thereof, in any capacity, acting either for himself, or for any other Person, under either personal appointment or pursuant to law, or any other entity recognized by law as the subject of rights and duties. The masculine, feminine, singular, or plural is included in any circumstance.

"Point Source" means an exhaust stack or other discrete, typically ducted source of airborne emissions.

"Pollution Control Waste" means any liquid, solid, semisolid or gaseous waste generated as a direct or indirect result of the removal of contaminants from the air, water or land and which poses a threat or potential threat to human health or to the environment or with inherent properties which make the disposal of such waste in a landfill difficult to manage by normal means. "Pollution Control Waste" includes but is not limited to water and wastewater treatment plant sludges, baghouse dust, landfill waste, scrubber sludges, and chemical spill cleanings.

"Post-Processed" means after all Processing has been completed.

"Potentially Infectious Medical Waste" means wastes as defined in 415 ILCS 5/3.360.

"Process" or "Processing" means manual, mechanical, or automated separation of Recyclable Material from other materials; separation of Recyclable Materials from each other; cleaning, bundling, compacting, cutting, packing of Recyclable Material or such other Processing of Recyclable Materials as approved by the Commissioner.

"Processing Area" means any area contained within a Facility where handling or Processing of any Recyclable Material takes place.

"Professional Engineer" means a Person who holds a current and valid certificate of registration and a seal pursuant to the "Illinois Professional Engineering Practice Act" (225 ILCS 325/1 et seq.).

"Professional Surveyor" means a Person who holds a current and valid certificate of registration and a seal pursuant to the "Illinois Professional Land Surveyors Act" (225 lLCS 330/1 et seq.).

"Property" means the land described by a legal description that includes a Facility, or a proposed Facility, and may include a Site or other areas within the described legal description operated or controlled by other independent businesses or entities.

"Recycle" or "Recycling" has the same meaning ascribed to these terms in section 11-4-120.

"Recycling Facility" has the same meaning ascribed to it in section 11-4-120.

"Recyclable Material(s)" has the same meaning ascribed in section 11-4-2510 and shall be categorized as Type A, Type B, Type C or Type D as these terms are defined in said section.

"Run-off" means water resulting from precipitation that flows overland before it enters a defined stormwater receptor (e.g., ditch, pond, sewer, stream channel), any portion of such overland flow that infiltrates into the ground before it reaches the stormwater receptor, and any portion that falls directly into a stormwater receptor.

"Run-on" means water resulting from precipitation that drains overland onto any part of the Facility.

"Secondary Containment" means a device or structure designed to contain a release of liquid from a tank, piping system, drum storage area, tanker truck loading/unloading area, liquid transfer point, pit, lagoon, impoundment, or similar liquid handling or storage system or device, thereby controlling the release of the liquid and preventing its escape into the environment.

"Sensitive Area" means any property with a residential use, a park, a hospital, a clinic, a church, a day-care center, or a school.

"Shredder" means a machine or device used to shred, tear, or cut materials into smaller pieces.

"Site" means all areas of Property that are available for use or are used by the Operator or the Owner that may or may not be related to the Recycling activities.

"Solid Waste" means abandoned or discarded materials that are not defined as a Liquid, Special, or Hazardous Waste.

"Special Waste" means any industrial process waste, Pollution Control Waste or Hazardous Waste, and other wastes as defined by the Illinois Environmental Protection Act as amended and in regulations promulgated by the Illinois Pollution Control Board. "Special Waste" includes Potentially Infectious Medical Waste.

"Staging" means the temporary placement or piling of materials awaiting Processing at the Facility in Staging Areas explicitly authorized in the permit. For purposes of this definition, ‘temporary’ means any material placed in the Staging Area is removed for Processing within five business days or less. The retention of materials in a Staging Area longer than five business

days or the placement of Post-Processed material or other material not requiring further Processing at the Facility in a Staging Area is considered Storage.

"Staging Area" means a dedicated area of the Facility used for Staging.

"Storage" means the containment or stockpiling of Recyclable Material, Post-Processed material, or residual waste. Storage does not include Staging, as defined in these rules.

"Store" means to contain or stockpile Recyclable Material, finished product, or residual waste that does not constitute Staging.

"SWPPP" or "Storm Water Pollution Prevention Plan" means a document that outlines how a Facility will minimize stormwater pollution by 1) employing best management practices (BMPs) and good housekeeping procedures that minimize pollutants such as sediments, oil, chemicals, and trash; 2) providing for inspections and BMP maintenance; and 3) performing continuous monitoring and periodic laboratory sampling and analysis.

"Tipping Floor" means the area within a Facility where receiving activities, including unloading, loading, and limited sorting occur.

"Trade secret" means any scientific or technical information, design, process, procedure, formula or improvement, or business plan which is secret in that it has not been published or disseminated or otherwise become a matter of general public knowledge, and which has competitive value.

"Unauthorized Materials" means materials not specifically authorized to be accepted and handled at the Facility under its CDPH Recycling Facility permit.

"Universal Waste" means Hazardous Waste such as batteries, pesticides, mercury-containing equipment, lamps, and other materials subject to the requirements under 35 Ill. Adm. Code 733.

"Utilities" means any service provided to the Site that has a dedicated system of service. Utilities may include but are not limited to electricity, potable water, process water, telephone, and natural gas.

"Vector" means any living agent, other than human, capable of transmitting, directly or indirectly, an infectious disease.

"Waste" means any discarded or abandoned material in solid, semisolid, liquid, or contained gaseous form, including but not limited to, industrial process waste, Hazardous Waste, Liquid

Waste, Municipal Waste, Special Waste, garbage, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control Facility, but excluding: (1) sewage collected and treated in a municipal or regional sewage system; or (2) Recyclable Materials managed in compliance with the provisions of the City of Chicago Municipal Code and applicable regulations.

"Waters" means all accumulations of water, surface, and underground, natural, and artificial, public, and private, or parts thereof, which are wholly or partially within, flow-through, or border upon the State of Illinois. Examples of Waters include, but are not limited to, Lake Michigan, the Chicago River, Calumet River, and Lake Calumet.

"Wetland" means those areas defined in 40 CFR 232.2.

3. Application Requirements for a Large Recycling Facility Permit

A Large Recycling Facility must apply for and receive a permit in accordance with these rules as follows:

- A New Facility must receive a permit before beginning operations;
- An Expanding Facility must receive a permit for the Expansion before beginning construction or otherwise implementing the Expansion;
- A Modifying Facility must receive a permit amendment before beginning any Modification; and
- An Existing Facility must renew its permit every three years before the expiration of its current permit.

Permit applications shall contain Documentation sufficient to Demonstrate that the Facility is designed and will be operated in a manner that protects public health, safety, and the environment. Documentation submitted to other regulatory agencies, such as the EPA, IEPA, the MWRD, and other City departments, relating to the construction or operation of a waste facility, a Recycling Facility, a discharge source, or an emission source must be included in the application as an Attachment and referenced in the application. Pursuant to 11-4-310 of the Code, the Applicant may request the Department to treat with confidentiality any information the Applicant deems a Trade Secret or containing Confidential Business Information.

The application requirements and contents for a Large Recycling Facility are described below and summarized in Appendix A.

3.1. Professional Engineer

The permit application shall be prepared under the direction of and shall contain the name, address, registration number, seal, and signature of, a Professional Engineer ("PE"). A PE stamp is not required on subsequent renewal applications if no Modification or Expansion is being proposed by the Applicant.

3.2. Submission Format

The Applicant must submit the entire application electronically in a portable document format (.pdf) file format or in another format approved by CDPH.

3.3. Description of Operations

Provide a brief description of the Operator's business and the operations that currently or will take place at the Facility.

3.4. Applicant Summary

The application shall contain an Applicant summary that clearly identifies the Person applying for the permit. In the case of a sole-proprietorship, the application shall include the name, address, and phone number of the owner of the proprietorship or, in the case of a partnership or corporation, the application shall include the name, address, contact name, and phone number of the partnership or corporation.

3.5. Facility and Property Summary

The application shall include a Facility and Property summary containing the following:

a. The Facility's street address and telephone number;

b. The Facility's and the Property's Property Index Numbers (PINs);

c. A description of other operations by the Operator occurring at the Property outside the scope of the recycling permit, if any; and

d. A list of businesses, other than the Applicant, that are operating on the Property, if any.

3.6. Property Owner's Authorization

The application shall include a notarized letter, signed by the Owner, authorizing the Operator to use the Property as a Large Recycling Facility. This letter is required even if the Applicant is the Owner.

3.7. Property Taxes

The application shall include Documentation evidencing the payment of real estate property taxes by providing copies of the most recent tax bill and check; or by providing a copy of the most recent tax bill that has been stamped paid by the Cook County Treasurer's office, or payment receipts issued by said office.

3.8. Nature of a Special Use

If applicable, the Design Report shall contain a copy of the variance in the nature of a special use (Special Use Variance) from the Zoning Board of Appeals (ZBA), and any plans and drawings referenced therein.

3.9. Design Report

The application shall contain a design report for the Facility ("Design Report") that shall include the following components, in order:

3.9.1. Site Survey

For New or Expanding Facilities, the Design Report shall contain a site survey prepared by a Professional Surveyor that includes:

3.9.1.1. The site survey shall be at a legible scale, no smaller than one inch equals 100 feet, and shall include the following components, at a minimum;

3.9.1.2. The Facility boundaries and the location of all buildings, access roads, parking areas, and any ancillary structures or features within the Facility;

3.9.1.3. Topographic contours, at a minimum two-foot contour interval, of existing conditions and any proposed regrading of the Site; and

3.9.1.4. Legal descriptions that describe the Facility boundaries.

3.9.2. USGS Site Location Map

For New or Expanding Facilities, the Design Report shall contain a USGS 7.5 Minute Quadrangle Map that includes:

3.9.2.1. A clearly marked one-mile radius around the entire Facility that identifies features such as a stream, river, pond, lake, Wetland, road, highway, school, park, and other features depicted in a USGS Quadrangle Map.

3.9.3. Aerial Photograph Drawing(s)

For New or Expanding Facilities, the Design Report shall contain aerial photography taken within one year before the date of the permit application that shows the following:

3.9.3.1. The delineated boundaries of the Facility;

3.9.3.2. Clearly marked radiuses of 150 feet and 660 feet around the entire Facility boundary to identify features such as a residential property, road, highway, school, park, non-manufacturing land uses and any other Sensitive Area within these radiuses;

3.9.3.3. Zoning districts clearly delineated. The district boundaries and their respective designation shall be clearly marked; and

3.9.3.4. Any additional characteristic or feature that has a location standard established in 3.9.4, or any other applicable standard. The drawing(s) shall identify the characteristic or feature and indicate the setback distance from the Facility boundary.

3.9.4. Location Standards

At a minimum, the Design Report for New or Expanding Facilities shall Demonstrate compliance with the following standards:

3.9.4.1. Residential Setbacks. A Facility must meet the setback requirements set forth in Section 17-9-0117 of the Municipal Code.

3.9.4.2. Lake Michigan. A Facility shall not be located within the Lake Michigan and Chicago Lakefront Protection District as specified in The Lake Michigan and Chicago Lakefront Protection Ordinance (Chapter 16-4 of the Municipal Code).

3.9.4.3. One hundred (100) year flood plain. A Facility and all ancillary structures, including Storage/Staging areas, shall not be located within the 100-year flood plain unless the Facility can Demonstrate compliance with the Chicago Flood Control Ordinance (Chapter 16-6 of the Municipal Code) and all other applicable state and federal requirements.

3.9.4.4. Wetlands. A Facility shall not have a negative impact on Wetlands located on or near the Facility, in accordance with Section 404 of the Clean Water Act (33 USC 1344)

unless the application is made and a permit received from the US Army Corps of Engineers, and the Commissioner approves such impact as part of the Facility's permit.

3.9.4.5. Endangered Species. A Facility shall not pose a threat to any endangered species of plant, fish, or wildlife as defined by the Endangered Species Act (16 USC 1531, *et seq.*) or the Illinois Endangered Species Protection Act (520 ILCS 10/1, *et seq.*).

3.9.4.6. Historical and Natural Areas. A Facility shall not pose a threat to any historic site as listed pursuant to the National Historic Preservation Act (54 USC 300101, *et seq.*) or the Illinois Historic Preservation Act (20 ILCS 3410/1, *et seq.*) and designated as an official Chicago Landmark Building or within an official Chicago Landmark district, or any natural landmark, as designated by the National Park Service, the Illinois State Historic Preservation Office, or as a Dedicated Illinois Nature Preserve pursuant to the Illinois Natural Areas Preservation Act (525 ILCS 30/1, *et seq.*).

3.9.5. General Layout of the Facility

The Design Report shall contain sufficient scale drawings to describe the general layout of the Facility. These drawings shall include and indicate, but not be limited to:

3.9.5.1. The main areas of the Facility, at a legible scale, not less than one inch equals 100 feet. The scale shall be represented on each drawing in graphical format;

3.9.5.2. The internal and external layout including dimensions of all buildings and structures;

3.9.5.3. The layout and location including dimensions for all fixed equipment including, but not limited to, all Processing equipment and conveyors;

3.9.5.4. The footprints of all Processing, handling, Storage (authorized and Unauthorized Materials), and Staging areas;

3.9.5.5. Traffic flow for vehicles used to transport Recyclable Materials through the facility. For New or Expanding Facilities, this drawing shall also depict the minimum turning radiuses required by vehicles and equipment transporting or handling materials at the Site;

3.9.5.6. If present, all pertinent features of the stormwater management system (e.g., onsite stormwater flow, inlets, stormwater pipelines, catch basins, and detention/retention ponds). For New or Expanding Facilities, the extent of the high-water level during a one hundred (100) year, 24-hour precipitation event shall also be depicted.

3.9.5.7. If present, all pertinent features of the wastewater management system (e.g., floor drains, sumps, oil filters/separators, sewer lines, and treatment facilities);

3.9.5.8. The locations of the primary water sources and water distribution system components for Employee Facilities, fire suppression, Facility cleaning, and dust control;

3.9.5.9. The locations of all fire suppression equipment (e.g., sprinklers, hoses, and extinguishers), areas where torch-cutting, plasma-cutting or welding occurs, and all flammable material storage areas;

3.9.5.10. The locations of all Facility or Site control features and all screening and access-control devices such as fences, gates, and signage;

3.9.5.11. The locations and layout of all onsite and nearby offsite parking and queuing areas, including the number of parking spaces and the maximum number of vehicles that can be queued at one time in the allowed queuing area;

3.9.5.12. The locations and layout of all employee facilities; and

3.9.5.13. The location of all first-aid equipment and other emergency supplies and equipment.

3.9.6. Pavements

All roads and parking areas within the Facility shall be paved with concrete or hot-mix-asphalt, or other materials such as gravel and asphalt grindings when deemed appropriate by the Commissioner. The Design Report shall Demonstrate that all internal roads and parking areas are designed, constructed, and maintained to accommodate the vehicle flow rates and type of traffic loading expected at the Facility, including, but not limited to:

3.9.6.1. A plan scaled drawing depicting all pavements at the Facility by pavement type. This information may be shown in the general layout plan required in 3.9.5;

3.9.6.2. A pavement maintenance plan describing how and at what frequency the Operator will inspect, repair, and maintain all pavements at the Facility to minimize ponding, dust, and mud;

3.9.6.3. For new pavements, a narrative description, or a cross-section drawing(s) describing or showing the thickness and material composition of the pavement system layers from subgrade to the surface slab or wearing course; and

3.9.6.4. For a New or Expanding Facility, all internal roadways, and surfaces subject to truck and heavy-equipment traffic within 100 feet of the Property line shall be paved with concrete or hot-mix-asphalt paving, or an equivalent pavement system, as approved by the Commissioner, in order to minimize dust emissions and provide for ease of cleaning.

3.9.7. Utilities

For New or Expanding Facilities, the Design Report shall Demonstrate that Utilities are of adequate capacity and are readily available for the operations of the Facility. The information in the Design Report regarding Utilities shall include:

3.9.7.1. A plan scaled drawing showing the location of all utilities within and adjacent to the Facility. This

information may be shown in the general layout plan required in 3.9.5;

3.9.7.2. Calculations demonstrating the peak demand for Utilities required for the proper operation of the Facility. This shall include, but is not limited to, gas and electrical demands; and

3.9.7.3. Documentation to Demonstrate that sufficient capacity for Utilities is available to the Facility to satisfy the demands calculated in 3.9.7.2. Such Documentation may be in the form of an approval letter or permit from the utility provider.

3.9.8. Water Sources

For New or Expanding Facilities, the Design Report shall Demonstrate that sufficient quantities of water are available to support Facility operations, and shall include:

3.9.8.1. An estimate of water usage at the Facility for fire suppression, dust control, cooling, cleaning, irrigation, and Employee Facilities.

3.9.8.2. The total amount of water, foams and other fire-extinguishing materials and oils or other chemical dust suppressants available from each source;

3.9.8.3. The rate at which water, foams, and other fire extinguishing materials and oils or other chemical dust suppressants can be obtained from each source; and

3.9.8.4. A list of the equipment and specifications that will be used to pump, distribute, and convey water, foams, and other fire-extinguishing materials and oils or other chemical dust suppressants.

3.9.9. Site Security

The Design Report shall Demonstrate that the Facility is secure from unauthorized access at all times, and shall include, at a minimum:

3.9.9.1. A description and specifications of the fences, gates, signs, and other barriers that prevent unauthorized access to the Facility; and

3.9.9.2. A description of the security measures taken during both operating hours and closed hours.

3.9.10. Structures and Fixed Equipment

The Design Report shall Demonstrate that all structures and fixed equipment are designed so that the Facility can be operated as proposed and in a safe manner, and shall include, but not be limited to:

3.9.10.1. Calculations of the handling capacity of all structures and fixed equipment;

3.9.10.2. An operating and maintenance plan for all structures and fixed equipment; and

3.9.10.3. Detailed design drawings and manufacturers' specification sheets for all structures and fixed equipment. Existing Facilities may submit the make and model of fixed equipment if the manufacturer's specification sheets are unavailable.

New or Expanding Facilities shall submit the following additional information:

3.9.10.4. Documentation that the buildings used to store recyclable materials meet all building and fire prevention requirements set forth in the Municipal Code;

3.9.11. Tipping Floor and Storage Capacity

The Design Report shall Demonstrate that sufficient floor and Staging capacity exists to accommodate the inspection and unloading of peak volumes of inbound material and the Staging and Storage of materials, and shall include, but not be limited to:

3.9.11.1. Detailed calculations of the volume, in cubic yards, available for the unloading of inbound materials on the Tipping Floor(s);

3.9.11.2. A drawing showing the size and location of the area dedicated to the screening of inbound loads, including the unloading and inspection of atypical loads and the inspection of random loads. This information may be shown in the general layout plan required in 3.9.5;

3.9.11.3. Detailed calculations of the volume in cubic yards available for the Storage and Staging of raw materials, Processed materials, products, Unauthorized Materials and residual Waste on the Tipping Floor(s), loadout area, and in all Staging and Storage areas; and

3.9.11.4. Drawings showing the location and lateral and vertical extents of all raw material, Processed material, Post Processed material, finished product, and residual Waste piles at the Facility. For Class III Facilities, include locations of all windrows and composting areas. This information may be shown on the general layout plan required in subsection 3.9.5.

3.9.12. Water Drainage

For New or Expanding Facilities, the Design Report shall Demonstrate that adequate systems exist to handle stormwater and wastewater flows from the Facility, and shall include:

3.9.12.1. A stormwater management plan approved by the Chicago Building Department pursuant to the stormwater ordinance under Chapter 11-18 of the Municipal Code, or written correspondence from the Chicago Building Department stating that the Facility is exempted from the stormwater ordinance requirement. The high water elevation from a One Hundred (100) Year, 24-hour Precipitation Event must be depicted on the general layout requirements in subsection 3.9.5 or in a separate drawing, even if the Facility is exempted from Chapter 11-18;

3.9.12.2. Copies of the Facility's NPDES and MWRD discharge permits, or anticipated submittal date, along with a copy of the permit application(s), and any other permit issued by the IEPA Bureau of Water;

3.9.12.3. Documentation that any receiving sewer system has sufficient capacity to handle the quantity of stormwater and wastewater generated by the Facility. Such Documentation may be in the form of an approval letter(s) or permit(s) from the Chicago Building

Department and/or the Chicago Department of Water Management; and

3.9.12.4. Drawings, specifications, and design calculations to Demonstrate effective management, treatment, or disposal of contaminated stormwater and process waters generated by the Facility.

For Expansions that result in no increase to the physical size of the Facility, the drainage review may be limited to the impact of the increase in storage or processing volume on existing conditions.

3.9.13. Traffic

The Design Report shall Demonstrate that the Facility is designed and located to minimize the impact on the existing traffic flow in the surrounding area and that the points of ingress and egress are designed according to Illinois Department of Transportation (IDOT) standards. This Demonstration shall include, but not be limited to:

3.9.13.1. Calculations of the average and the maximum number of vehicles generated by the Facility as well as an hourly breakdown of Facility vehicle traffic. For Existing Facilities, this information may be determined using truck-scale records going back at least one year of the application date;

3.9.13.2. A stacking plan showing the number of vehicles and the onsite and offsite locations of these vehicles during the maximum peak Facility traffic hours; and

3.9.13.3. An idling reduction plan that Demonstrates compliance with Section 9-80-095 of the Code and that minimizes unnecessary idling of vehicles and equipment in order to avoid contributions to poor air quality and noise.

For New or Expanding Facilities:

3.9.13.4. A Demonstration that traffic generated by the Facility will not interfere with the flow of traffic or exceed the intended level of service of any public street or right-of-way;

3.9.13.5. Traffic counts taken in hourly intervals at all ingress/egress points to identify the peak hours of traffic occurring in the morning and afternoon. The traffic counts shall include a classification of vehicles;

3.9.13.6. A description of the measures taken to reduce the impact of the Facility generated traffic on the existing traffic flows; and

3.9.13.7. Diagrams of the points of ingress and egress depicting the layout of ingress/egress points, sight distances, and improvements necessary to minimize accidents at the ingress/egress points.

3.9.14. Expected Waste Generation

For New or Expanding Facilities, the Design Report shall include a description and estimate of the amount of Waste in tons anticipated to be generated at the Facility, and shall include:

3.9.14.1. An estimate of Liquid Waste in gallons generated at the Facility each month, broken down by activity. Such activities may include, but not necessarily be limited to, the draining of fluids from vehicles, the collection of leachates from stockpiles, the cooling of equipment, and the cleaning, draining, or washout of sumps and pollution control devices. In addition, the estimate shall include a description of both onsite and offsite methods employed to collect and manage the Liquid Waste from each activity; and

3.9.14.2. An estimate of Waste in tons to be generated at the Facility each month, broken down by activity, and categorized by Waste type (Municipal Waste, Special Waste, Hazardous Waste, Universal Waste, Liquid Waste, etc.). Waste may include residue generated from the Processing of Recyclable Materials, cleaning and housekeeping activities, and Waste from filter media and pollution control devices.

3.9.15. Parking

For New or Expanding Facilities, the Design Report shall Demonstrate that the Facility meets the minimum automobile parking ratio and the minimum bike parking requirements mandated by the Chicago Zoning Ordinance, and shall include:

3.9.15.1. The number of employees at the Facility and the corresponding number of parking spaces;

3.9.15.2. Backup calculations showing the parking spaces in 3.9.15.1 meet the parking requirements mandated by the Chicago Zoning Ordinance; and

3.9.15.3. A layout of all parking areas, including bicycle parking, short-term vehicle parking, and vehicle queuing areas. This layout may be shown on the general layout plan required in subsection 3.9.5.

3.9.16. Employee Facilities

For New or Expanding Facilities, the Design Report shall contain a description of the Employee Facilities available at the Facility.

3.9.17. Perimeter Barrier

The Design Report shall Demonstrate that the barrier around the Facility will obscure Facility operations from the public way and adjacent properties, and shall include:

3.9.17.1. A description of the Facility's perimeter barrier, including, but not limited to:

3.9.17.2. a. Height – the barrier must be at least 8 feet high;

3.9.17.3. b. Material Composition – The barrier must be solid so as to completely obscure all materials stored or kept within the Facility boundaries.

3.9.17.4. For New and Expanding Facilities, the barrier must be constructed of durable material such as concrete, cinder block, brick, metal (at least 18 gauge steel or 3.18-millimeter aluminum), or another material, including composites of the above, approved by the Commissioner in the permit conditions.

3.9.17.5. Applicants seeking approval to use other types of materials must demonstrate that the proposed material meets zoning requirements and are comparable in terms of durability, maintenance requirements, visual-screening, and noise-mitigating performance relative to above-listed materials.

3.9.17.6. For the purpose of this requirement, chain-link or wrought-iron fencing covered in slats or meshing is not considered a durable material;

3.9.17.7. Site Access Locations – When possible, all gates and access openings shall be located away from adjacent or nearby non-manufacturing land uses; and

3.9.17.8. Elevation Drawing - For new barriers, the application shall include an elevation drawing(s) showing the vertical dimensions and construction of the barrier, gates, and other important features.

Barriers are not required on sides of the Facility along a waterway if the barrier interferes with loading operations or conflicts with zoning requirements. In addition, adjacent embankments or rail lines may be used towards meeting the above requirement if such features otherwise meet the security and screening intent of this section, subject to approval by the Commissioner.

3.9.18. Stormwater Pollution Prevention

For Sites located along Waters or which discharge to an MS4, the Design Report shall include a Stormwater Pollution Prevention Plan (SWPPP) that includes, but may not necessarily be limited to:

3.9.18.1. The identification of offsite receiving Waters and sewerage systems. If the discharge is to a sewer, identify the sewer type (combined, MS4, sanitary);

3.9.18.2. An inventory of potential pollutants at the Facility and their sources. The types of pollutants to be considered shall, at a minimum, include sediments, oil and grease, toxic chemicals, pH, heavy metals, nutrients, and trash/debris; and

3.9.18.3. A description of best management practices (BMPs) to address the pollutants identified. The description shall Demonstrate that the BMPs are designed and will be maintained to effectively remove the pollutants described in 3.9.18.2, in accordance with all applicable local, state, and federal rules.

3.9.18.4. The Applicant may submit a copy of the SWPPP prepared in accordance with the Facility's NPDES permit to satisfy the requirements of this section. The CDPH may require additional information or measures to supplement the SWPPP based on site-specific conditions.

3.9.19. Noise Impact Assessment

For applications requesting a waiver to operate outside of the operating hours in Section 4.2, the Design Report shall include a noise impact assessment that includes, but is not limited to:

3.9.19.1. A demonstration that sound levels from the Facility will not exceed applicable standards set forth in Section 8-32-090 of the Chicago Noise Ordinance;

3.9.19.2. This Demonstration shall include a determination of the total sound level in dB(a). This total sound level may be computed based on a detailed inventory of sound levels generated by equipment and site activities, measured directly using a sound pressure level meter, or under a work plan prepared and performed by a noise-abatement engineer or qualified sound consultant;

3.9.19.3. If any sound levels exceed applicable standards contained in 8-32-090 of the Code, the noise impact assessment shall include a noise abatement plan to bring sound levels down to within regulatory requirements; and

3.9.19.4. For Facilities that conduct the shredding of metals, the noise impact assessment must include a noise monitoring plan to continuously record sound pressure levels at the Facility and collect the data required in 4.6.1 of these rules. Devices used to measure noise

levels must use omnidirectional microphones or microphones otherwise approved in the permit or waiver.

3.9.19.5. Existing Facilities that have not been found to have violated any applicable noise standard or Ordinance in the past three years may, at the Commissioner's discretion, be exempted from any of the requirements under this subsection.

3.9.20. Storage Tanks

The Design Report shall Demonstrate that all storage tanks used to store oil, chemicals, and flammable liquids have Secondary Containment and are approved by the State Fire Marshall's Office and the CDPH's Storage Tank Unit. A Facility subject to Spill Prevention Control and Counter Measures (SPCC) regulations under 40 CFR 112 shall provide a copy of the Facility's SPCC Plan.

3.9.21. Air Quality Impact Assessment

The Design Report for a Consequential Facility shall contain an air quality impact assessment that includes, but is not necessarily limited to:

3.9.21.1. An emissions and air dispersion modeling study ("Study") of the Facility and its operations, using USEPA's AERMOD software or other software approved by the Commissioner. The Study shall evaluate airborne emissions from each Point Source and Fugitive Source. The Study shall evaluate PM10 emissions that may be generated at the Facility from sources such as, but not limited to, Processing equipment, diesel engines, and emissions from roadways, stockpiles, material handling, sorting, welding, torching, grinding and cutting activities. Diesel emissions from on-road mobile sources are not required to be included in the modeling study.

In addition to PM10, *Facilities that receive scrap metal or metallic Recyclables shall evaluate the following HAPs in the modeling study:* antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, and selenium compounds.

3.9.21.2. A dust monitoring plan that describes the placement, operation, and maintenance of the PM10 monitors and a weather station as required under Section 4.7.7 of these rules, and a schedule and plan for quarterly testing to ensure compliance with the prohibition of dust set forth in 4.7.2.

a) The dust monitoring plan shall provide for at least one monitor at the following locations along or near the Facility's fence line: At each 45-degree direction relative to the center of the Facility where there is a Sensitive Area within 660 feet of the Facility boundary; and

b) At each location of the Facility or Property determined in the air-dispersion modeling study to potentially exceed EPA's 24-hour standard for PM10 or relevant acute or chronic health screening limits or standards for the modeled HAPs.

However, in circumstances where the above requirements would result in monitors being placed on the same side of the facility within 100 feet of one another, a single monitor may be used. In such cases, the single monitor must be placed in a central location as approved by CDPH in the permit.

When appropriate, the PM10 monitors in 3.9.21.2 may be located along the Property boundary as directed in the permit conditions.

In the event no location meets the criteria in 3.9.21.2(a) and 3.9.21.2(b) above, at least one monitor shall be placed downwind of the prevailing wind direction. This air monitor may be relocated as necessary to account for seasonal variation in wind direction. The situations under which the relocations should occur shall be specified in the Dust Monitoring Plan.

3.9.21.3. A calibration plan that ensures all PM10 monitors and weather stations will be calibrated prior to being placed in service, and annually or at a frequency recommended by the manufacturer thereafter. For Facilities using light-scattering nephelometers to monitor PM10, the calibration shall include periodic determination of a site-specific correlation factor that calibrates the instruments' readings against concentrations determined by gravimetric sampling using EPA IO 3.1, NIOSH 0500, or other methods approved by CDPH. The site-specific correlation factor shall be calculated using mathematical formulas provided by the equipment manufacturer.

3.9.21.4. For Facilities that handle scrap metal or metallic recyclables, a metals sampling plan to determine the concentrations of metallic Hazardous Air Pollutants that were required to be modeled in 3.9.21.1. Such concentrations shall be determined using EPA Method IO 3.5, NIOSH 7303, or other methods approved by CDPH. The concentrations of the metals shall be evaluated at least once every permit term, or in conjunction with all scheduled nephelometer site-specific calibrations in 3.9.21.3, whichever time period is shorter.

3.10. Operating Plan

The application shall contain an operating plan ("Operating Plan") for the Facility that shall include, at a minimum, the following components, in order:

3.10.1. Types of Recyclable Material

The Operating Plan shall include a description of the types and quantities of materials accepted at the Facility. It shall also include the screening measures to be used by the Facility to ensure that Unauthorized Materials are not accepted, improperly disposed of, or unlawfully reused offsite. The operating plan shall include, but not be limited to:

3.10.1.1. A list of the general types of materials accepted and Processed at the Facility. Such general descriptions may include, but not necessarily be limited to, 1) the grades

of materials or commodities as defined by Institute of Scrap Recycling Industries (ISRI), 2) the material categories required to be reported to the Department of Streets and Sanitation pursuant to Chapter 11-5 of the Code, or 3) the material names listed in Section 8 of the Recycling Facility Permit Application Form (Version 1802), as amended;

3.10.1.2. A description of the source types (industrial, commercial, residential, construction or demolition activity, junk peddlers, tow-truck drivers, Waste transfer stations, recycling service pick-ups, etc.) from which the different types of materials will be accepted, and the source-screening protocol, including radiation screening of metal scraps, that will be followed to ensure Unauthorized Materials will not be brought to the Facility;

3.10.1.3. A screening plan that provides for the screening of loads, including radiation screening of metal scraps, entering the Facility that ensures loads containing Unauthorized Materials will not be allowed to unload at the Facility. The plan shall also describe in detail the inspection procedures for unloaded materials;

3.10.1.4. A plan for the segregation and removal of all Unauthorized Material from the Facility; and

3.10.1.5. An emergency response plan for the handling, storage, and disposal of hazardous or dangerous materials that require immediate attention or specialized handling and/or disposal.

3.10.2. Quantity of Recyclable Material

The Operating Plan shall include a description of the daily quantities of materials in tons accepted at the Facility during average and peak-volume seasons and shall include:

3.10.2.1. Documentation to Demonstrate that the Facility has a sufficient number of covered containers to store all newsprint, paper, corrugated paper, and cardboard that will be accepted;

3.10.2.2. Detailed calculations estimating the peak daily quantities of material that can be accepted at the Facility taking into consideration the Process flow rates in 3.10.3.1, the Staging and Storage volumes in 3.9.11.3, truck stacking capacity in 3.9.13.2, and other pertinent factors. The estimated material quantities shall be provided on a tons per day basis and include all assumptions used in the calculation; and

3.10.2.3. Documentation to Demonstrate that the Facility has the ability to determine and record the amounts of material in tons entering and exiting the Facility, material Processed at the Facility, and can readily generate a summary report on these quantities in a reasonable period of time when requested by the Commissioner.

3.10.3. Devices, Apparatus, and Processes

The Operating Plan shall Demonstrate, through detailed calculations, flow diagrams, and operating guidelines, that the Facility is capable of Processing the average and maximum peak season daily quantities anticipated for the Facility in a safe manner, including, but not limited to:

3.10.3.1. A flow diagram(s) indicating the material flow between each major Process line or Process step. The flow diagram(s) shall depict the flow of material between each structure, fixed equipment, Storage and Staging piles, unloading areas, and loading areas on the diagram. The diagram(s) shall also indicate Processing rates for structures and fixed equipment, staffing requirements, Storage and Staging capacities, mean Storage and Staging times, and inflow /outflow rates, including operating hours;

3.10.3.2. A health and safety plan that includes all job hazard assessments and a description of the OSHA-required safety devices or procedures employed for all Processing equipment such as, but not limited to, electric lockout devices, guarding, emergency stopping devices, and explosion-proof switches and controls; and

3.10.3.3. A description and results of any OSHA-required worker air and noise exposure sampling for Facility activities such as, but not necessarily limited to, welding, torching, sanding, crushing, and grinding. As applicable, these documents shall be provided in compliance with the Health Insurance Portability and Accountability Act (HIPAA) requirements.

3.10.4. Fire Prevention

The Facility shall comply with the requirements of the Municipal Code and all applicable local, state, and Federal laws and regulations relating to fire prevention. The Operating Plan shall include a Fire Prevention and Response Plan. At a minimum, the Fire Prevention and Response Plan shall include:

3.10.4.1. A description of the safety measures employed to prevent fires;

3.10.4.2. A list of all flammable or explosive materials used in the day-to-day operation of the Facility, their amounts, storage method and location at the Facility;

3.10.4.3. A description of the handling procedures for the flammable or explosive materials listed;

3.10.4.4. Details and specifications of a fire detection system for the Facility;

3.10.4.5. Specifications and locations of all fire suppression equipment including, but not limited to, extinguishers, automatic sprinklers, and hoses. This information may be shown in the general layout plan required in 3.9.5;

3.10.4.6. A description of the responsibilities of all employees in the event of a fire; and

3.10.4.7. A stockpile monitoring protocol that includes the use of thermal cameras, designed to prevent fires and explosions from ASRs and metal stockpiles.

3.10.5. Emergency Communications

The Operating Plan shall contain a description of the emergency communication system. This description shall include, but not be limited to:

3.10.5.1. A listing of all equipment available for routine communications and emergency communications;

3.10.5.2. A list of authorities and on-call emergency environmental contractors that may be contacted in the event of an emergency situation; and

3.10.5.3. A description of the internal chain-of-command in the event of an emergency, including a description of responsibilities.

3.10.6. First Aid Equipment

The Operating Plan shall contain a description of the first aid equipment available at the Facility. This description shall include, but not be limited to:

3.10.6.1. A listing of first aid supplies available at the Facility; and

3.10.6.2. A description of the location of first aid equipment.

3.10.7. Rodent/Vector Control

The Operating Plan shall include a plan for the effective prevention and control of rodents and other Vectors, and at a minimum, shall include:

3.10.7.1. A minimum of monthly inspections to be conducted by a Vector control specialist of the entire Facility for rodents, mosquitos, and other Vectors. A record of the most current inspection and eleven previous inspections shall be maintained at the Facility; and

3.10.7.2. A detailed description of all measures employed (e.g., bait stations and traps) to prevent infestation by rodents, mosquitos, and other Vectors, including good housekeeping practices used to control rodents, mosquitos, and other Vectors.

3.10.8. Vehicles

The Operating Plan shall describe the vehicles to be used at the Facility, including:

3.10.8.1. A list of all types of vehicles proposed to be maintained at the Facility and maintenance activities to be performed;

3.10.8.2. The quantity of each type of vehicle maintained at the Facility;

3.10.8.3. The intended use and operating plan for each vehicle;

3.10.8.4. The number of employees qualified to operate each vehicle; and

3.10.8.5. The quantity of material in tons each vehicle is expected to be able to Process or transport.

3.10.9. Disposal Facilities

The Operating Plan shall identify all disposal facilities to which Liquid Waste and residual Waste from the Facility will be hauled. The information shall include:

3.10.9.1. The name and location of all disposal and other facilities where Solid Waste, Liquid Waste, and recovered refrigerants will be disposed of or recycled.

3.10.10. Daily Housekeeping and Cleaning

The Operating Plan shall Demonstrate that the daily housekeeping and cleaning procedures are sufficient to minimize dust, track-out, and the presence of rodents, mosquitos, and other Vectors and odors, and shall include, but not be limited to:

3.10.10.1. A description of all daily cleaning activities, including the cleaning of pavements complying with subsection 4.14 of these rules;

3.10.10.2. A schedule indicating the initiation and completion of daily cleaning activities;

3.10.10.3. The make, model and specification of the street sweeper required in 4.14.2 of these rules and any sprayers, misters and other dust suppression equipment employed at the Facility;

3.10.10.4. A description of materials, supplies, and quantities necessary to complete the daily cleaning activities and to clean up leaks and spills;

3.10.10.5. A description of the staffing that will be dedicated to conducting the required daily cleaning activities; and

3.10.10.6. A record-keeping plan to document daily cleaning-activities.

3.10.11. Hours of Operation

The Operating Plan shall specify the hours of operation of the Facility, including Processing, receipt, and maintenance activities. Operating hours shall be limited to the hours specified in 4.2 unless a waiver is granted by the Commissioner.

3.10.12. Closure Plan

The application shall contain a Closure Plan. The Closure Plan shall include, at a minimum, the following components, in this order:

3.10.12.1. Closure Plan Activities. The Closure Plan shall list activities that will occur upon Closure, including a listing of materials necessary for Closure and a schedule for completion.

3.10.12.2. Material Removal. The Closure Plan shall include a plan for removing all Recyclable Materials and Waste material from the Facility.

3.10.12.3. Equipment Decommissioning. The Closure plan shall include a plan for decommissioning and cleaning all equipment and structures at the Facility.

3.10.12.4. Cost Estimates. For Class V Facilities, the Closure Plan shall include cost estimates for the completion of all Closure activities. The cost estimates shall be based on the cost necessary for Closure at any time during the life of the Facility and shall not be discounted to current values. The cost estimate shall reflect a worst-case scenario.

3.10.12.5. Financing. For Class V Facilities, the Closure Plan shall include Documentation to Demonstrate that sufficient financing is available to complete all Closure activities.

4. Recycling Facility Operating Standards

A Large Recycling Facility shall comply with the following operational standards. All plans required for the application must be consistent with the standards described below.

4.1. Permit

The Facility shall be operated in accordance with the current permit application on file with the Department and the current permit issued by the Department. A copy of the permit shall be maintained at the Facility as part of the Operating Record and shall be reviewed at a minimum annually by the Operator. If the current permit application and the current permit conflict, the permit shall govern.

4.2. Hours of Operation

The Facility operating hours shall be limited to the hours specified in Section 8.0 of the Recycling Facility Rules, as amended unless a written waiver is issued by the Commissioner. A request for a written waiver shall include a noise impact assessment, as described in 3.9.19 of these rules.

4.3. Material Volume and Weight Limitations

The Facility may not exceed the volume or weight limits specified in the permit. If in response to an emergency, the Facility is required to receive a volume or weight that exceeds the permitted limit, a written record of the date, time, additional volume or weight, and reason shall be made part of the Facility's Operating Record, and the Operator shall notify the Department in accordance with the permit.

4.4. Material Management and Enclosure

4.4.1. Storage Stockpiles.

Except as provided below, the height of any outdoor Storage stockpile within the Facility shall not exceed 20 feet. The Facility shall maintain height markers up to 30 feet, with gradations marked at one-foot intervals, at all outdoor stockpile locations to indicate the current height of material stockpiles.

4.4.2. Auto Shredder Residue (ASR)

Post-Processed ASR shall be stored inside a covered, fire-proof enclosure that effectively protects the stored material from precipitation and potential ignition sources, and that prevents this material from becoming windborne. Such enclosure must be durable, weatherproof, and structurally sound and have side walls designed to resist the deadload of the ASR material piled next to it and the live load of equipment pushing ASR material on to the walls.

Staged ASR awaiting processing shall be stored in a manner that minimizes the emission of dust and ASR Fibers from becoming windborne. Facilities found liable of violating any applicable Municipal Code ordinance, rule, or permit condition relating to the offsite deposition of ASR Fibers must implement onsite controls consisting of structural controls, potentially including the complete enclosure of ASR storage and processing areas, the use of covered conveyers, removal of fiber-producing materials from vehicles prior to shredding, or other controls deemed necessary by the Commissioner.

4.4.3. Staging Areas

The height of Staged stockpiles within an authorized Staging Area ("Staged Piles") may be up to 30 feet tall, provided the Operator complies with the following conditions:

4.4.3.1. Materials in Staged Piles shall consist exclusively of materials awaiting further Processing at the Facility;

4.4.3.2. The Operator does not exceed the Staging Area's volume capacity in cubic yards as set forth in the permit;

4.4.3.3. The Operator complies with the quarterly reporting requirements in 4.17, and

4.4.3.4. Upon receiving a written request from CDPH, the Operator shall timely submit hourly or daily throughput data, and other information requested by the Department deemed necessary to determine compliance with this subsection.

a) Failure to meet any of the above requirements will make the Staged Pile subject to the 20-foot height limit.

b) A variance may be requested to increase the height of a Staged Pile located within an authorized Staging Area. Such requests are subject to the variance requirements contained in Section 6 of these rules.

4.4.3.5. Indoor Piles

None of the height limitations in **Error! Reference source not found.** shall apply to material piles located wholly inside a building.

4.5. Vehicles and Equipment

The Facility shall have sufficient vehicles and equipment available at all times to accept and Process the Facility's permitted volumes or weights of material. Such vehicles and equipment shall be operated in a manner that minimizes emissions, including but not limited to, the following:

4.5.1. Vehicles

All inbound and outbound trucks carrying dirt, aggregate (including ores, minerals, sand, gravel, shale, coal, clay, limestone, or any other ore or mineral which may be mined), garbage, refuse, or other similar material susceptible to becoming windborne shall be sealed or tarped. All leaking containers and torn tarps shall be decommissioned and replaced or repaired.

4.5.2. Rails and Barges

Railcars and barges must be loaded in a manner that will control dust through the use of best management practices such as but not limited to, the use of solid covers, telescoping loading booms, dust chutes and the application of dust suppression agents and/or water.

4.5.3. Stationary Equipment

All stationary mechanical equipment shall meet or exceed the emission control level required under the Facility's local, state, and federal air permits, as applicable.

4.6. Noise Monitoring and Standards

The Facility shall not cause a noise nuisance and shall comply with the performance standards for noise and vibration specified in the Municipal Code.

4.6.1. Noise Monitoring

A Large Recycling Facility that shreds vehicles or potentially explosive materials shall conduct noise monitoring as follows:

4.6.1.1. Noise Monitors

Install, operate, and maintain noise monitors within or around the perimeter of the Facility in accordance with the noise monitoring plan prepared under paragraph 3.9.19.4 of these rules.

4.6.1.2. Data-logging

A data logger shall be attached to all noise monitors to record sound pressure levels in one-band octaves and dB(a) using impulse time weighting mode or a time weighting mode approved by CDPH.

4.6.1.3. Noise Report

The raw data collected by the data logger and the results of any scheduled noise instrument calibration tests shall be submitted to CDPH on a monthly basis. Such reports shall be sent to envwastepermits@cityofchicago.org within two weeks from the end of the reporting period month.

4.7. Air Quality Standards and Monitoring

The Facility shall comply with all of the following requirements to minimize air quality impacts:

4.7.1. Certificate of Operation

The Facility shall possess a certificate of operation issued in accordance with Section 11-4-660 of the Ordinance. The Department reserves the right to impose dust control requirements, in addition to the requirements set forth in these rules, as conditions of the Facility's certificate of operation or air pollution control permit.

4.7.2. Fugitive Dust

Except as provided herein, neither the Owner nor Operator shall cause or allow the emission of Fugitive Dust into the atmosphere and shall comply with the following requirements.

4.7.3. Visible Dust

No visible Fugitive Dust shall travel beyond the boundaries of the Facility. Using the method specified in 35 IAC 212.107, the Owner or Operator shall conduct once-daily observations of Fugitive Dust around all sides of the Facility when there have been less than 0.1 inches of precipitation within the previous 24-hours.

A copy of the daily Fugitive Dust observation results must be attached to the Operating Record.

4.7.4. Opacity Limit

The Owner or Operator shall not cause or allow the emission of any Fugitive Dust within the Facility at any Storage pile, transfer point, roadway or parking area that, for a period or periods aggregating more than three minutes in any one hour, exceeds an opacity of 10% based on a visual reading in accordance with the measurement method specified in 35 IAC 212.109.

4.7.5. Quarterly Opacity Measurements

Quarterly testing shall be conducted to ensure compliance with the opacity limit set forth in 4.7.4. Such testing must be conducted by a professional trained and certified to read opacity in accordance with the measurement method specified in 35 IAC Part 212.109. Opacity readings should be taken under representative weather and operating conditions. A copy of the quarterly opacity measurement results must be attached to the Operating Record.

4.7.6. State Operating Program for Fugitive Dust

The Operator shall provide CDPH a copy of and implement its Operating Program as required under 35 IAC Part 212 Subpart K. In addition, the Operator shall submit to CDPH any subsequent amendments to the Operating Program as required in 35 IAC Part 212.312 within 30 days of sending such amendments to IEPA. The CDPH may require additional information or measures to supplement the State Operating Program based on site-specific conditions.

4.7.7. Consequential Facility Air Monitoring Requirements

A Consequential Facility shall conduct dust and wind monitoring as follows:

4.7.7.1. Continuous PM10 Monitoring. Install, operate, and maintain continuous PM10 monitors around the perimeter of the Facility in accordance with the dust monitoring plan prepared under paragraph 3.9.21.2 of these rules. These instruments must be designated as Federal Equivalent Method (FEM) by EPA or meet the requirements for a Near Reference PM 10 Monitor as defined in these rules.

4.7.7.2. CDPH may require the installation of additional air monitors or the relocation of existing air monitors if the Facility causes a dust nuisance or if CDPH determines that the current number or placement of air monitors at the Facility is ineffective or inadequate.

4.7.7.3. Additional monitoring. The Department may require the Consequential Facility to install, operate, and maintain other monitoring methods, including, but not limited to, video recording and one or more filter-based monitoring sites, when PM10 monitoring does not provide sufficient information regarding Fugitive Dust for the Commissioner to adequately assess the health impacts of such emissions. Any additional monitoring methods shall meet the specifications set forth in an approved fugitive dust plan. In the event that additional monitoring is required, the Department will provide a reasonable time period for equipment installation.

4.7.7.4. Continuous Weather Monitoring. Install, operate, and maintain, according to manufacturer's specifications, a weather station, or other permanent device to monitor and record wind speed and wind direction, along with the corresponding temperature, precipitation, and relative humidity at the Facility. Such readings shall be taken at an unobstructed, unsheltered area, centrally positioned in relation to the Storage or Staging piles and dust-causing activities, and at a minimum height of

10 meters above ground level, unless another height is appropriate pursuant to applicable US Environmental Protection Agency protocols and guidance.

4.7.7.5. Data-logging. A data logger shall be attached to all air monitors and weather stations to record readings from the monitors. All data collected shall be consistent with units in the National Ambient Air Quality Standards for PM10, and ambient monitoring practices must comply with current US Environmental Protection Agency protocols and guidance for ambient air quality monitoring, including but not limited to those for data completeness, calibration, inspection, maintenance, and site and instrument logs.

4.7.7.6. Reportable Action Level (RAL). The PM10 RAL is the concentration of PM10 measured at any monitoring location at the Facility that will trigger response activities under the contingency plan required under 4.7.7.12. The PM10 RAL shall be 150 micrograms per cubic meter averaged over a 15-minute period, unless a different concentration or averaging time is specified by CDPH in the permit. In cases where there is an upwind PM10 monitor present, the upwind PM10 concentration may be subtracted from the downwind PM10 concentration in determining a PM10 RAL exceedance. CDPH may require a different or multiple site-specific RALs based on the potential emissions of metals and pollutants from the Facility, ambient background concentrations of PM10, adjacent offsite sources of PM10, the Facility's compliance history and level of housekeeping, and/or other pertinent factors.

4.7.7.7. Additional RALs. The Department may set forth different or additional RALs in the permit for wind speeds, PM2.5, VOCs, and other pollutants based on the information contained in the application, the Facility's compliance history, the occurrence of dust nuisance and health complaints and/or other factors.

4.7.7.8. Alternate RAL. The Applicant may propose an alternate PM10 RAL concentration or PM10 RAL averaging time to CDPH. Such proposal shall Demonstrate the following:

a) The current PM10 RAL is not reliable due to offsite ambient PM concentrations beyond the control of the Operator;

b) The proposed PM10 RAL is protective of human health and the environment. This Demonstration shall include filter-based sampling showing the air concentration of various metals and pollutants handled at the Facility; and

c) The proposed RAL does not violate any applicable local, state, or federal air quality standards or requirements.

The Department may reinstate the RAL in 4.7.7.6 should it find the alternate RAL insufficient in preventing nuisances and negative impacts on human health and the environment.

4.7.7.9. Monthly Data Reporting. All data collected pursuant to 4.7.7.5 must be submitted to CDPH within 14 days of the end of the month in which the data was collected via email to envwastepermits@cityofchicago.org, in a format specified by the Department.

4.7.7.10. RAL Notification. When a reportable action level is exceeded, the Operator shall use telemetry or other means to notify CDPH by email at envwastepermits@cityofchicago.org within fifteen (15) minutes or within the timeframe specified in the permit. The subject line of such email shall contain the words “RAL Alert Condition - ” followed by the Facility's permit number. The notification shall include the following information recorded at the time the RAL occurred:

a) The date and time of the RAL exceedance;

b) The average wind speed and wind direction recorded over a 15-minute period;

c) The concentrations of PM10 recorded by all monitors over the same 15-minute period; and

d) The latitude and longitude coordinates in decimal degrees of all monitoring locations.

4.7.7.11. RAL Recording. Within 24-hours of an RAL, the Operator shall record the following information in the Operating Record:

a) The date and time of the exceedance;

b) The recorded wind speed and PM10 concentration(s) at the time of the RAL;

c) The onsite and/or offsite source(s) of the emission;

d) A description of the mitigative action(s) taken;

e) A description of any operational impact as a result of the RAL incident; and

f) A description of any preventive measure(s) to reduce or eliminate future occurrence.

4.7.7.12. Contingency Plan. The Owner or Operator shall prepare a contingency plan describing mitigative actions that will be taken when the monitors detect PM10 or other parameters that exceed the RAL under these rules or in the permit. The response activities should consist of a range of increasingly aggressive measures appropriate to different levels of exceedance and take into account whether the source is determined to be onsite or offsite.

4.7.7.13. Dust Monitoring Plan. Fully implement and maintain compliance with the dust monitoring plan prepared under paragraph 3.9.21.2 of these rules.

4.7.7.14. Exemption. The Applicant may request an exemption from any or all of the requirements under 4.7.7,

provided it can demonstrate compliance with all the following criteria to the satisfaction of the Commissioner:

a) The Facility conducts all loading, unloading, Processing, and material Storage inside a building with adequate emission controls;

b) The Facility has no unpaved parking lots or internal roadways within 660 feet of a Sensitive Area. For the purpose of this exemption, unpaved means not paved with concrete or hot-mix-asphalt; and

c) The Facility has not been found in violation of any air-quality laws relating to Fugitive Dust emissions in the previous three years.

4.8. Utilities

All necessary Utilities shall be available with sufficient capacity to serve the Facility and its operations. In the event of a disruption of any Utility service, a contingency plan shall exist to provide backup capacity, provide procedures for safe operation and emergency equipment, or diversion of materials to other facilities during the disruption.

4.9. Equipment Maintenance

Equipment and vehicles used at the Facility shall undergo routine maintenance. The Facility shall develop a maintenance plan for all equipment and vehicles used in Facility operations. Such records shall be maintained in the Operating Record. The Owner and Operator shall prevent the usage of any vehicle or equipment that is in need of repair and would pose a safety issue, result in structural or mechanical damage, or pose a risk to the environment if used.

4.10. Source and Load Screening

The Facility shall accept and Process only those Recyclable Materials authorized in the permit. The Operator shall conduct screening of materials in accordance with the screening plan required in 3.10.1.3 of these rules. Any Unauthorized Materials inadvertently accepted shall be removed from the Facility as soon as possible in accordance with the conditions of the permit and all local, state, and federal requirements.

4.11. Material Handling, Paved Surface

All material handling activities, including unloading, screening, Processing, and loading, shall be conducted on a paved surface.

Recyclable Materials that may leak fluids or leave oily residue shall be delivered and stored indoors, or on a dedicated, impermeable pad such as concrete, compacted clay, or other engineered material as approved by the Commissioner. The impermeable pad shall be sloped, bermed, or otherwise constructed to prevent stormwater Run-on and Run-off, and facilitate the capture and collection of fluids. The Operator must properly dispose of all Liquid Waste collected at the Facility.

4.12. Shredder and Shredder Enclosure

For New and Expanding Facilities, Shredders that Process vehicles or have potentially explosive feedstock must be enclosed.

For all Facilities, Shredders shall be designed to withstand internal explosions, safely deflect objects that may be ejected from the Shredder box by mechanical force or explosions, and be covered or hooded as necessary to meet state and federal air quality capture-efficiency requirements.

4.13. Fire Prevention and Accident Safety Plan

The Facility shall have a fire prevention and accident safety plan; shall operate in compliance with applicable National Fire Protection Association (NFPA) performance standards for fire and explosive hazards; and shall install and maintain fire suppression equipment as specified in the Chicago Zoning Ordinance, the building regulations and applicable fire prevention regulations of the Municipal Code.

4.14. Pavement Maintenance and Cleaning

All driveways, access roads, parking areas, and other areas used for vehicle traffic shall be properly maintained to prevent or minimize any dust emissions, standing water, and the tracking of mud offsite.

4.14.1. Sweeping

All Site pavements, adjacent pavements accessible by the Owner or Operator, and public rights-of-way within a quarter-mile of the Facility, at a minimum, shall be cleaned using a street sweeper to minimize dust and remove mud and any spilled or emitted materials from the Facility's operation.

For Facilities that store or handle ASR, the Owner or Operator shall also clean sidewalks, parkways, public areas, and private properties (with owner permission) of any ASR Fibers present within a quarter-mile from the Facility. In the event ASR Fibers are found, the Owner or Operator shall continue to clean and street-sweep an additional 660 feet (one block) until no more ASR Fibers are observed.

4.14.2. Street Sweeper

The street sweeper shall be equipped with a water spray, for use during nonfreezing weather, and a vacuum system to prevent Fugitive Dust during street sweeping. A dry vacuum-assisted street sweeper may be used upon demonstration, to the satisfaction of the Commissioner, that such sweeper has a 90% efficiency, or better, in removing fine particulates.

4.14.3. Sweeping Frequency

The street sweeping shall be sufficient so that not more than four hours elapses between each street sweeper cleaning or after every 100 vehicle material receipts or dispatches, but not less than one time daily when the Facility is in operation unless all pavements that require sweeping under this section are free and clear of any material transported to or from the Facility or emitted by Facility operations. If the Operator cannot sweep because of an emergency or inclement weather (i.e., pavements are inaccessible due to snow cover), the Operator shall note such reasons in the sweeping log in 4.14.4.

4.14.4. Sweeping Log

The date and time when street sweeping was performed and the total vehicle count shall be recorded each operating day.

4.14.5. Pavement Repair

Broken pavements and potholes shall be promptly backfilled with aggregate, patched, or repaired in accordance with the permit. CDPH may allow for additional time through the permit conditions, provided the Applicant can demonstrate the following to CDPH:

a) The Facility has a Vector control plan that addresses mosquitos;

b) The standing water is not occurring in areas subject to truck traffic. Ponded water on traveled areas should be promptly backfilled with aggregate and be repaired as soon as possible to minimize dust generation and track-out;

c) The ponded water will dissipate or will be removed (using a sump pump, absorbent, or other means) within 72 hours of a rain event; and

d) The Facility is judiciously applying water based on weather conditions (temperature, relative humidity, etc.) and in-situ material moisture content, as well as utilizing appropriate misters, sprinkler heads, water cannons, and/or other devices/systems specifically designed or appropriate for dust-control applications.

4.15. Traffic

The Facility shall not cause the back up of vehicles onto public roads or rights-of-way at any time. No vehicles used in the operations of the Facility shall be parked, idled, or wait along public streets or rights-of-way. The Owner or Operator shall have or arrange for sufficient parking available for all personnel, visitors, and vehicles used for the operations of the Facility.

4.16. Record Keeping

All records required to be kept under these rules shall be maintained at the Facility a minimum of three years unless otherwise specified in the permit and shall be made available to CDPH upon request.

4.17. Quarterly Reporting

Using forms provided by CDPH, the Facility shall submit a quarterly report containing the following information:

4.17.1. The monthly tonnage of Unauthorized Materials inadvertently accepted at the Facility broken down by type;

4.17.2. The monthly tonnage of Recyclable Materials received and shipped at the Facility broken down by the type of material described in 3.10.1.1;

4.17.3. For auto-shredding facilities, the total tonnage of vehicles shredded by month;

4.17.4. Facilities that generate, treat, and/or store ASR shall provide the tonnage of ASR shipped offsite for disposal and a description of any methods used to stabilize or solidify heavy metals to meet waste-disposal requirements;

4.17.5. The number of days the Facility was in operation broken down by month;

4.17.6. A list of the disposal facilities used to dispose of the Unauthorized Materials and Waste, and the types and quantities of materials taken to each disposal facility;

4.17.7. The disposition and amount in gallons of Liquid Waste disposed of offsite;

4.17.8. The disposition and amount of refrigerants recovered at the Facility;

4.17.9. The amount of acetylene or other compressed gas or fuel used to cut metals at the Facility, including metals cut for operations and maintenance purposes;

4.17.10. A chronological summary of the following events at the Facility:

a) All environmental, health, fire and building code violations, as well as all corrective actions implemented;

b) All emergencies that occurred at the Facility;

c) All nuisance complaints received by the Owner or Operator, and their outcomes; and

d) Any other information requested by CDPH to track compliance with the permit and these rules.

The quarterly report shall be submitted to CDPH within 45 days following the end of each quarter.

5. Implementation Schedule

These Rules shall take effect as follows:

These rules shall go into effect upon signing by the Commissioner ("Effective Date").

For a New or Expanding Facility, the requirements in Section 3 shall take effect immediately on the Effective Date. For an Existing Facility, the requirements in Section 3 shall take effect on all renewal permit applications submitted on or after one year following the Effective Date of these rules.

The requirements in Section 4 shall take effect no later than the timeline specified in the operating permit issued for an application submitted pursuant to Section 3, but no later than six months from the date the permit is reissued, unless an extension for good cause is granted by the Commissioner.

Subsequent to the schedules above, an Existing Facility that becomes a Consequential Facility over the course of the permit term shall submit a revised application no later than 90 days after receiving a written notification from CDPH that the Facility has been deemed a Consequential Facility by the Department. Such an application shall comply with all the requirements for a Consequential Facility application pursuant to these rules.

The Commissioner may, at the Commissioner's sole discretion, grant extensions of the timeframes provided above upon request and only for good cause shown by the Applicant.

6. Applications for a Variance

The Applicant may apply to the Commissioner for a variance from any rule set forth in Sections 3 and 4 in accordance with the provisions set forth below.

6.1. Requirements of the Variance Application

The request for a variance must be in writing and must set forth, in detail, all of the following:

6.1.1. Standard Requirements

6.1.1.1. A statement identifying the rule or requirement for which the variance is requested;

6.1.1.2. A description of the process or activity for which the variance is requested, including pertinent data on location, size, and the population and geographic area affected by, or potentially affected by, the process or activity;

6.1.1.3. The quantity in tons and types of materials used in the process or activity in connection with which the variance is requested, as appropriate;

6.1.1.4. Documentation to Demonstrate that the variance will not create a public nuisance or adversely impact the surrounding area, surrounding environment, or surrounding property uses;

6.1.1.5. A statement explaining:

a) Why compliance with the rules imposes an arbitrary or unreasonable hardship;

b) Why compliance cannot be accomplished during the required timeframe due to events beyond the Facility Operator's control such as permitting delays or natural disasters; or

c) Why the proposed alternative measure is necessary.

6.1.1.6. A description of the proposed methods to achieve compliance with the rules and a timetable for achieving that compliance, if applicable;

6.1.1.7. A discussion of alternate methods of compliance and of the factors influencing the choice of applying for a variance; and

6.1.1.8. A statement regarding the Person's current status as related to the subject matter of the variance request;

6.1.2. Height Variance for Staged Piles

In addition to the information required in 6.1.1, an application for a Staged Pile height variance shall include the following:

6.1.2.1. Documentation to Demonstrate that the Staged Pile is in character with neighboring land uses and does not present a visual blight to the community; and

6.1.2.2. A Staged Pile surveillance plan that includes the installation and operation of web-based cameras with recording storage capacities of 60-days or more. The CDPH shall be provided access to all live and recorded footage.

6.2. Criteria for Reviewing Variance Applications

In determining whether to grant a variance, the Commissioner will consider public comments received pursuant to 6.4 and will evaluate the information provided in the variance application.

6.2.1. Consideration

Particular consideration will be given to the following information:

a) Inclusion of a definite compliance program;

b) Evaluation of all reasonable alternatives for compliance;

c) Demonstration that any adverse impacts will be minimal;

6.2.2. Denial

The Commissioner may deny the variance if the application for the variance is incomplete or if the application is outside the scope of relief provided by variances;

6.2.3. Variance Scope and Conditions

The Commissioner may grant a variance in whole or in part, and may attach reasonable conditions to the variance, or require alternative measures, to ensure minimization of any adverse impacts and to accomplish the purposes of Chapter 11-4 of the Code; and

6.2.4. Issuance and Revocation

Issuance of a variance is at the sole discretion of the Commissioner. A variance may be revoked at any time if the Commissioner finds that operation of the Facility is creating a public nuisance or otherwise adversely impacting the surrounding area, surrounding environment, or surrounding property uses.

6.3. Change in Facility Operations

If any part of the Facility's operation that is the subject of the variance expands or changes, then, at least thirty (30) days prior to the Expansion or change in operation, the Facility Operator shall notify the Commissioner and either a) apply for a new variance or b) notify the Commissioner of the Operator's intent to comply with the rule(s) that were the subject of the variance, in which case the variance will automatically terminate.

6.4. Notice of Variance Applications

The Commissioner will not grant any variance under this section until members of the public have had an opportunity to submit written comments on the variance application. Public notice of all variance applications will be provided by publication in a newspaper of general circulation published within the city and by publication on the city's website. The Commissioner will accept written comments for a period of not less than thirty (30) days from the date of the notice.

7. Other Laws

These rules in no way affect the Facility's responsibility to comply with all other applicable federal, state, City laws, Ordinances, and Rules, including but not limited to those regarding the construction, operation, maintenance, and Closure of the Facility.

8. Severability

If any clause, sentence, paragraph, subsection, section, or part of these rules is adjudged by any court of competent jurisdiction to be invalid, that judgment shall not affect, impair or invalidate the remainder of these rules, but shall be confined in its operation to the clause, sentence, paragraph, subsection, section or part to which the judgment is rendered.

Appendix A
Requirements Applicability Table

Rule	Requirement*	Existing	Modifying	New	Expanding	Consequential
	Application Requirements for a Large Recycling Facility Permit					
3.1.	Professional Engineer	X[1]	X	X	X	X
3.2.	Submittal Formats	X	X	X	X	X
3.3.	Description of Operations	X	X	X	X	X
3.4.	Facility and Property Summary	X	X	X	X	X
3.5.	Facility Summary	X	X	X	X	X
3.6.	Property Owner's Authorization	X	X	X	X	X
3.7.	Property Taxes	X	X	X	X	X
3.8.	Nature of a Special Use	X[2]	X[2]	X[2]	X[2]	X[2]
3.9.	Design Report	X	X	X	X	X
3.9.1.	Site Survey			X	X	
3.9.2.	USGS Site Location Map			X	X	
3.9.3.	Aerial Photograph Drawing(s)			X	X	
3.9.4.	Location Standards			X	X	
3.9.5.	General Layout of the Facility	X	X	X	X	X
3.9.6.	Pavements	X[4]	X[4]	X[3,4]	X[3,4]	X[4]
3.9.7.	Utilities			X	X	
3.9.8.	Water Sources			X	X	
3.9.9.	Site Security	X	X	X	X	X
3.9.10.	Structures and Fixed Equipment	X	X	X[5]	X[5]	X
3.9.11.	Tipping Floor and Storage Capacity	X	X	X	X	X
3.9.12.	Water Drainage			X	X	
3.9.13.	Traffic	X	X	X[6]	X[6]	X
3.9.14.	Expected Waste Generation			X	X	
3.9.15.	Parking			X	X	
3.9.16.	Employee Facilities			X	X	
3.9.17.	Perimeter Barrier	X	X	X[7]	X[7]	X
3.9.18.	Stormwater Pollution Prevention Plan	X[8]	X[8]	X[8]	X[8]	X[8]
3.9.19.	Noise Impact Assessment	X[9]	X[9]	X[9]	X[9]	X[9,10]
3.9.20.	Storage Tanks	X	X	X	X	X
3.9.21.	Air Quality Impact Assessment					X
	Operating Plan					
3.10.1.	Types of Recyclable Material	X	X	X	X	X
3.10.2.	Quantity of Recyclable Material	X	X	X	X	X
3.10.3.	Devices, Apparatus, and Processes	X	X	X	X	X
3.10.4.	Fire Prevention	X	X	X	X	X
3.10.5.	Emergency Communications	X	X	X	X	X
3.10.6.	First Aid Equipment	X	X	X	X	X
3.10.7.	Rodent/Vector Control	X	X	X	X	X
3.10.8.	Vehicles	X	X	X	X	X
3.10.9.	Disposal Facilities	X	X	X	X	X
3.10.10.	Daily Housekeeping and Cleaning	X	X	X	X	X
3.10.11.	Hours of Operation	X	X	X	X	X
3.10.12.	Closure Plan	X[11]	X[11]	X[11]	X[11]	X[11]

Appendix A
Requirements Applicability Table

Rule	Requirement*	Existing	Modifying	New	Expanding	Consequential
	Recycling Facility Operating Standards					
4.1.	Permit	X	X	X	X	X
4.2.	Hours of Operation	X	X	X	X	X
4.3.	Material Volume and Weight Limitations	X	X	X	X	X
4.4.	Material Management and Enclosure	X	X	X	X	X
4.5.	Vehicles and Equipment	X	X	X	X	X
4.6.	Noise Monitoring and Standards					X[10]
4.7.	Air Quality Standards	X	X	X	X	X
4.7.3	Consequential Facility Air Monitoring					X
4.8.	Utilities	X	X	X	X	X
4.9.	Equipment Maintenance	X	X	X	X	X
4.10.	Source and Load Screening	X	X	X	X	X
4.11.	Material Handling, Paved Surface	X	X	X	X	X
4.12.	Shredder and Shredder Enclosure		X[12]	X[12]		
4.13.	Fire Prevention and Accident Safety Plan	X	X	X	X	X
4.14.	Pavement Maintenance and Cleaning	X	X	X	X	X
4.15.	Traffic	X	X	X	X	X
4.16.	Record Keeping	X	X	X	X	X
4.17.	Quarterly Reporting	X	X	X	X	X

[1] A PE-stamp is not required for any subsequent renewal application of an Existing Facility that is not proposing any Modification or expansion.

[2] As applicable.

[3] All internal roadways and surfaces subject to truck within 100 feet of the properline shall be paved with hot-mix-asphalt or concrete.

[4] New pavements must provide coss-section drawing or narrative description of pavement system.

[5] Requires documentation that buildings used to store recyclables meet Code requirements.

[6] Requires traffic study with traffic counts.

[7] Requires fencing made out of durable materials.

[8] Required for Facilities located along Waters or discharge to an MS4.

[9] Required for Facilities that request a waiver to operate beyond the operating hours specified in the General Recycling Facility Rules.

[10] Noise monitoring plan required for Facilities that shred vehicles or potentially-explosive materials.

[11] Class V Facilities must provide a closure cost estimate and proof of financial assurance.

[12] For New or Expanding Facilities that shred vehicles or potentially explosive feedstock.

* In the event of a conflict, the most stringent requirement shall apply.

APPENDIX B

Minimum Specifications for Near-Reference PM10 Monitors

The PM10 monitors required by the Rules shall meet or exceed the following requirements, subject to approval by the Commissioner:

1. PM10 monitors must be continuous direct-reading near-real time monitors and shall monitor particulate matter less than 10 microns.

2. PM10 monitors must be equipped with:
    a. Omni-directional heated sampler inlet;
    b. Sample pump;
    c. Volumetric flow controller;
    d. Enclosure; and
    e. Data logger capable of logging each data point with average concentration, time/date, and data point number.

3. PM10 monitors must have the following minimum performance standards:
    a. Range: 0 - 10,000 µg/m3
    b. Accuracy: ±5% of reading ± precision
    c. Resolution: 1.0 µg/m3
    d. Measurement Cycle: User selectable

4. In order to ensure the validity of the PM10 measurements performed, there must be appropriate Calibration Plan as set forth in 3.9.21.1 of these rules. It is the responsibility of the Owner or Operator to adequately supplement the Calibration Plan to include the following critical features: instrument calibration, instrument maintenance, operator training, and daily instrument performance (span) checks.

CITY OF CHICAGO

RULES

Control of Emissions from Handling and Storing Bulk Materials

Effective January 25, 2019

Mayor Rahm Emanuel **Commissioner Julie Morita, M.D.**

BY AUTHORITY VESTED IN THE COMMISSIONER OF THE DEPARTMENT OF PUBLIC HEALTH PURSUANT 2-ll2-160(b) AND 11-4-760(e), ll-4-770 AND 11-4-800 THE RULES REGARDING CONTROL OF EMISSIONS FROM HANDLING AND STORING BULK MATERIALS, WHICH WERE PUBLISHED ON MARCH 13, 2014, ARE HEREBY AMENDED AND REIUSSED, AS FOLLOWS:

By Order of the Commissioner:

Signed: _____ Date: 1/24/2019

Commissioner Julie Morita, M.D.

Published: 1/25/19

Effective: 1/25/19

(THESE UPDATED RULES SUPERSEDE THE RULES ENTITLED, "AIR POLLUTION CONTROL: EMISSIONS FROM HANDLING AND STORAGE OF BULK MATERIALS," WHICH WERE PUBLISHED AND BECAME EFFECTIVE ON MARCH 13, 2014)

CITY OF CHICAGO
DEPARTMENT OF PUBLIC HEALTH

RULES FOR CONTROL OF EMISSIONS FROM HANDLING AND STORING BULK MATERIALS

Whereas, pursuant to Chapters 2-112 and 11-4 of the Municipal Code of Chicago (the "Code"), the Department of Public Health (the "Department") is charged with enforcement of environmental regulations within the City of Chicago, including the enforcement of regulations intended to reduce the risk of harm to public health or the environment from air pollution; and

Whereas, pursuant to the authority granted by Section 2-112-160(b) of the Code, the Commissioner of Health (the "Commissioner") is authorized to issue rules necessary or proper for the implementation of environmental ordinances and to accomplish the purposes of Chapter 11-4 of the Code, and is further authorized to make reasonable administrative and procedural regulations or rules interpreting or clarifying the requirements which are specifically prescribed in Chapter 11-4 of the Code; and

Whereas, this general rule-making authority includes any rules necessary to implement Article II of Chapter 11-4 of the Code, Sections 11-4-600 through 11-4-810, the "Air Pollution Control Ordinance"; and

Whereas, this general rule-making authority also includes any rules necessary to implement Article VIII of Chapter 11-4 of the Code, Sections 11-4-1410 through 11-4-1460, "Pollution of Waters"; and

Whereas, Section 11-4-800 of the Code further authorizes the Commissioner to issue rules to implement Article II of Chapter 11-4 of the Code; and

Whereas, Section 11-4-760(e) of the Code authorizes the Commissioner to promulgate additional rules for the proper management of any substance or material that may become airborne or be scattered by the wind; and

Whereas, in addition, Section 11-4-770 of the Code provides that, for the purpose of minimizing air pollution, the Commissioner may prescribe, by rules and regulations, reasonable, specific operating and maintenance practices for buildings, structures, premises, open areas, automobiles and/or truck parking and sales lots, private roadways, rights-of-way, storage piles of materials, yards, vessels, vehicles, construction, sandblasting, alteration, building, demolition or wrecking operations and any other enterprise which has or involves any matter, material or substance susceptible to being windborne and for the handling, transportation, disposition or other operation with respect to any material subject to being windborne; and

Whereas, Chicago is a densely populated metropolitan area, such that industrial uses are sometimes in close proximity to residential uses; now, therefore,

I, Julie Morita, M.D., Commissioner, Department of Health, City of Chicago, issue the following rules pursuant to the authority granted to me by Sections 2-112-160, 11-4-760(e), 11-4-770, and 11-4-800 of the Municipal Code of Chicago.

PART A: INTRODUCTION

1.0 Scope and Purpose. The purpose of these Rules is to prescribe reasonable, specific operating and maintenance practices to minimize emissions of airborne particulate matter from the storage, on-site handling, loading, unloading, stockpiling, and Processing of Bulk Solid Materials as defined herein, including but not limited to ores, coal, and coke, including petroleum coke ("petcoke") and metallurgical coke ("metcoke"). These Rules apply to any owner, operator, or other person who stores, loads, unloads, stockpiles, handles on-site, Processes, or uses Bulk Solid Materials. Part B sets forth requirements that are applicable to all Bulk Solid Material Facilities. Part C sets forth requirements that are applicable only to Coke or Coal Bulk Material Facilities. Part D sets forth requirements that are applicable only to facilities that handle Manganese-Bearing Materials. Part E sets forth requirements that are applicable only to Bulk Solid Material Facilities that have outdoor storage piles and that are not Coke or Coal Bulk Material Facilities. Part F sets forth compliance and variance provisions for all Bulk Solid Material Facilities.

2.0 Definitions. For purposes of these rules, the following definitions shall apply:

(1) ASTM means the American Society for Testing and Materials.
(2) BLEND or MIX means combining two or more Bulk Solid Materials.
(3) BULK SOLID MATERIAL means any Non-Packaged solid substance or material that can be used as a fuel or as an ingredient in a manufacturing process that may become airborne or be scattered by the wind and that, except for coke and coal, is stored at a Facility in an amount equal to or greater than 25 cubic yards at any one time, including but not limited to ores, coal, and coke, including petcoke and metcoke, but shall not include salt, grains, Construction and Demolition Materials, materials that are handled or stored pursuant to a recycling, reprocessing, or waste handling Facility permit under Chapter 11-4 of the Code, or materials used in manufacturing cement at a facility that has obtained a construction permit and prevention of significant deterioration approval from the Illinois Environmental Protection Agency.
(4) CHEMICAL STABILIZER is any chemical dust suppressant which is not prohibited for the uses proposed in these rules or by any other applicable law, and which meets all applicable specifications required by any federal, state, or local agency.
(5) COAL is a solid, brittle, carbonaceous rock classified as anthracite, bituminous, subbituminous, or lignite by ASTM Designation D388-77.
(6) COKE is a solid carbonaceous material derived from the distillation of coal (including metallurgical coke) or from oil refinery coker units or other cracking processes (including petroleum coke).

(7) COKE OR COAL BULK MATERIAL FACILITY is a source, site, or facility where coke or coal is stored, loaded, unloaded, stockpiled, handled on-site, blended, Processed, or otherwise managed.

(8) CONSTRUCTION OR DEMOLITION MATERIAL means material used in or resulting from the construction, remodeling, repair, landscaping, or demolition of utilities, structures, buildings, and roads, including but not limited to stockpiles of crushed stone, sand and gravel, hot mix asphalt plants or ready mixed concrete plants.

(9) EXISTING FACILITY is a Facility that is properly permitted by the Commissioner, and subject to a Certificate of Operation issued by the Commissioner, as of the issuance date of these Rules and is limited to operations within Facility boundaries as the boundaries exist on the issuance date of these Rules.

(10) FACILITY is all contiguous land, and structures, other appurtenances, and improvements on the land, used for storing, on-site handling, loading, unloading, stockpiling or Processing Bulk Solid Material.

(11) FUGITIVE DUST means any solid particulate matter that becomes airborne by natural or human-made activities, excluding engine combustion exhaust and particulate matter emitted from a properly permitted exhaust stack equipped with a pollution control device.

(12) HIGH WIND CONDITIONS is when average wind speeds exceed 15 miles per hour over two consecutive five minute intervals of time.

(13) INTERNAL ROAD means any route within a facility that is not located in an area normally used for staging or storage of material and that has evidence of repeated prior travel by, or is otherwise regularly used by, Vehicles for transporting materials to, from, or within a Facility.

(14) MANGANESE-BEARING BULK MATERIAL means ferrous manganese, manganese silicate, manganese alloy, manganese ore, or any other material from which manganese is extracted or emitted or otherwise becomes airborne.

(15) MANGANESE-BEARING BULK MATERIAL FACILITY is a source, site, or facility where Non-Packaged Manganese-Bearing Bulk Material is stored, loaded, unloaded, stockpiled, handled on-site, blended, Processed, or otherwise managed.

(16) MANGANESE LIMIT (ML) is the concentration of manganese equal to or greater than 0.30 micrograms per cubic meter as averaged over a rolling three-month period.

(17) METALLURGICAL COKE, or METCOKE, is a carbon material resulting from the manufactured purification of multifarious blends of bituminous coal.

(18) MOIST MATERIAL means material with a moisture content of 3% by weight as determined by ASTM analysis, unless another standard is established by an applicable State Permit, Law, Rule or Regulation.

(19) NON-PACKAGED means not fully containerized to prevent the possibility of any dust escaping from the package the entire time the material is in the possession of the owner or operator.

(20) OWNER OR OPERATOR means any person who has legal title to any Facility, who has charge, care or control of any Facility, who is in possession of any Facility or any part thereof, or who is entitled to control or direct the management of any Facility.

(21) PERSON is any individual, partnership, co-partnership, firm, company, limited liability company, corporation, association, joint stock company, trust, estate, political subdivision, state agency, or any other legal entity, or their legal representative, agent or assigns.
(22) PETROLEUM COKE, or PETCOKE, is a solid carbonaceous residue produced from a coker after cracking and distillation from petroleum refining operations, including such residues produced by petroleum upgraders in addition to petroleum refining.
(23) PM10 means particulate matter less than or equal to 10 microns in diameter.
(24) PROCESS OR PROCESSING means any chemical, industrial, commercial, or manufacturing operation or activity that causes, or has the potential to cause, the emission of airborne particles including, but not limited to, blending, mixing, crushing, screening, breaking, wet or dry cleaning, thermal drying, and chemically treating.
(25) REPORTABLE ACTION LEVEL means the positive difference between the level of PM10 measured at the upwind monitor(s) at a Facility and the level of PM10 measured at the downwind monitor(s) at a Facility that will trigger response activities under a contingency plan pursuant to Section 3.0(3)(~~f~~g) as established in the Fugitive Dust Plan submitted by a Facility under Section 3.0(3). The Reportable Action Level may vary based on the value of the difference, and based on the concentration of PM10 detected at the downwind monitor(s) at a Facility.
(26) TRANSFER POINT is the location at or within a facility where material being moved, carried, or conveyed is dropped or deposited.
(27) VEHICLE is any car, truck, railcar, or marine vessel.

PART B: BULK SOLID MATERIAL FACILITIES

3.0 Operating and Maintenance Practices. Any Facility that Processes, handles on-site, transfers, loads, unloads, stockpiles, or stores Bulk Solid Materials shall comply with all of the following requirements:

(1) Certificate of Operation – Required. Every Owner or Operator of a Facility subject to these Rules must possess a certificate of operation issued in accordance with Section 11-4-660 of the Code. The Department reserves the right to impose dust control requirements, in addition to the requirements set forth in these Rules, as conditions of the Facility's certificate of operation, if the Commissioner finds that the Facility has failed to control fugitive dust.

(2) Fugitive Dust – Prohibited. The Facility Owner or Operator shall prevent the discharge into the atmosphere of visible fugitive dust as specified below:

a) Visible Dust. The Facility Owner or Operator shall not cause or allow any Fugitive Dust that is visible beyond the property line of the Facility;

b) Opacity Limit. The Facility Owner or Operator shall not cause or allow any Fugitive Dust within the property line of the Facility at any Bulk Solid Material storage pile, Transfer Point, roadway or parking area that exceeds 10% opacity, or other applicable opacity standard set forth in an applicable

State Permit, Law, Rule or Regulation, including but not limited to the Environmental Protection Act and 35 Ill. Admin Code Part 212.

c) Measurement of Opacity. Opacity shall be determined based on a visual reading in accordance with the measurement method specified in 35 Ill. Admin. Code 212.109 (often referred to as "Method 9 testing").

d) Testing of Visible Emissions and Opacity Limits. The Facility Owner or Operator shall, on at least a quarterly basis, periodically perform tests of visible fugitive dust and opacity in accordance with the protocol set forth in the approved Fugitive Dust Plan.

(3) Fugitive Dust Plan – Required. Every Owner or Operator of a Facility subject to these Rules must prepare, submit, and follow a Fugitive Dust Plan. The Fugitive Dust Plan shall be updated on an annual basis and submitted to the Department for review and approval on or before January 31 every year, provided that the first Fugitive Dust Plan shall be due within ninety (90) days of the issuance of these Rules. For Facilities that are constructed or become subject to these Rules after they take effect, the first Fugitive Dust Plan shall be submitted with the Facility's application for a certificate of operation and before the Facility accepts any Bulk Solid Materials. If the Commissioner finds that the submitted Fugitive Dust Plan is missing any required information or is insufficient to ensure compliance with these Rules, the Commissioner may disapprove the Fugitive Dust Plan and request submission of a modified Fugitive Dust Plan. If the Facility Owner or Operator plans to make any change, modification, or addition to any Facility component described in the most recently submitted Fugitive Dust Plan, the Facility Owner or Operator shall submit an amended Fugitive Dust Plan to the Department for review and approval at least thirty (30) days prior to such change, modification, or addition. The Fugitive Dust Plan shall include, at a minimum, the following components:

a) A site map, drawn to scale, depicting the following information:

i. Facility boundaries;

ii. All buildings, Internal Roads and utilities on Facility property;

iii. All roadways within one quarter mile of the perimeter of the Facility that are within the City of Chicago and that are used for transport of material to or from the Facility;

iv. All potential emissions points at the Facility, including a depiction of the footprints of all Bulk Solid Material storage piles; and

v. The locations of all control devices and monitoring devices, including the fugitive dust monitors required under 3.0(4) and the wind speed monitor required under 3.0(6);

b) A description of the Facility's operations, including a list of all Bulk Solid Materials handled at the Facility;

c) A description of the truck routes within one quarter mile of the perimeter of the Facility that are used to transport material to or from the Facility, including an explanation of how dust will be minimized during transport (e.g., travel on paved roads where possible, minimize truck speeds, etc.) and a description of the measures that will be used to ensure trucks are cleaned of loose material before they leave the Facility;

d) A calculation showing the Facility's maximum total indoor and outdoor Bulk Solid Material storage capacity in tons or cubic yards. In the first Fugitive Dust Plan, due within ninety days of the issuance of these Rules, the calculation shall be certified by signature of an authorized representative of the Owner or Operator and shall be accompanied by evidence of authority to sign on behalf of the Owner or Operator;

e) A description of all control measures, devices, and technologies to be used to minimize and control Fugitive Dust, a statement certifying that all control measures, devices, and technologies have been properly calibrated and maintained, and a statement that all appropriate Facility staff have been trained on the proper application and operation of all such control measures, devices, and technologies;

f) A dust monitoring plan that describes:

   i. The placement, operation, and maintenance of the PM10 monitors required under paragraph 3.0(4); and

   ii. The schedule and plan for quarterly testing to ensure compliance with the prohibition on Fugitive Dust set forth in 3.0(2). Such testing must be a) conducted by a professional trained and certified to read opacity in accordance with the measurement method specified in 35 Ill. Admin. Code 212.109, and b) conducted during a range of weather conditions to ensure that representative conditions are the Facility are covered;

g) A contingency plan describing the Owner's or Operator's response activities when the monitors required under paragraph 3.0(4) detect PM10 that exceeds the Reportable Action Level as defined in Section 2.0 above. The response activities should consist of a range of increasingly aggressive measures appropriate to different levels of exceedance;

h) A contingency plan for an alternative method of monitoring in the event of malfunction or failure of the approved PM10 monitors;

i) A description of the Facility's recordkeeping system, which shall include a schedule for routine inspection, testing, and maintenance as required in 3.0(18); and

j) A factsheet or executive summary of the Fugitive Dust Plan designed to inform the public of the Facility's plan to control and minimize fugitive dust.

The Department will post the summary, together with the approved Fugitive Dust Plan, on the City's website.

(4) Fugitive Dust Monitoring. Unless, pursuant to the Variance procedure set forth in 10.0 below, the Facility Owner or Operator establishes that the Facility's operations do not result in off-site fugitive dust emissions, the Facility Owner or Operator must install, operate, and maintain, according to manufacturer's specifications, permanent, continuous Federal Equivalent Method (FEM) real-time PM10 monitors around the perimeter of the Facility in accordance with the requirements specified below:

a) During the first year of monitoring, at least four monitors shall be placed at or near the boundaries of the Facility to monitor for Fugitive Dust in the ambient air around the Facility, with monitor locations subject to approval of the Department and consistent with the most recent U.S. Environmental Protection Agency protocols and guidance for ambient air quality monitoring siting criteria;

b) During the second and subsequent years of monitoring, monitors shall be placed in accordance with an approved dust monitoring plan that shall be based on the data observed in the first year, with monitors located at a minimum of two upwind and two downwind locations and additional monitors as appropriate depending on the size of the facility and other relevant factors such as variability of wind direction at the site and the proximity of neighborhoods;

c) All data collected shall be consistent with units in the National Ambient Air Quality Standards for PM10, and ambient monitoring practices must comply with current U.S. Environmental Protection Agency protocols and guidance for ambient air quality monitoring, including but not limited to those for data completeness, calibration, inspection, maintenance, and site and instrument logs;

d) A data logger shall be attached to the monitors to record readings from the monitors, and the Facility Owner or Operator shall notify the Department, in writing within 24 hours, each time the monitors exceed the Reportable Action Level set forth in the Fugitive Dust Plan and any time monitoring equipment has malfunctioned preventing readings or logging of data; and

e) The Facility Owner or Operator shall maintain a log of all routine and non-routine maintenance and calibration activities associated with each fugitive dust monitor.

f) On a monthly basis, the Facility Owner or Operator shall submit the hourly data for each fugitive dust monitor in an Excel spreadsheet, together with the meteorological station data for the same time period. The monthly monitoring reports shall be submitted within 14 days of the end of the month in which the data was collected, via email to CDPHPermits@cityofchicago.org, in a format specified by the Department.

(5) Additional Monitoring. In addition to requiring monitoring pursuant to Section 3.0(4) for Bulk Material Facilities and Section 6.0 for Manganese-Bearing Bulk Material Facilities, the Department may require the Facility Owner or Operator to install, operate, and maintain other monitoring methods, including but not limited to video recording and one or more filter-based monitoring sites. The Department may require such methods when PM10 monitoring does not provide sufficient information regarding fugitive dust for the Commissioner to adequately assess the health impacts of such emissions. Any additional monitoring methods shall meet the specifications set forth in an approved Fugitive Dust Plan. The Department may require that this plan include procedures similar or equivalent to those set forth in Section 6.0 below for Manganese-Bearing Bulk Material Facilities. In the event that additional monitoring is required, the Department will provide a reasonable time period for equipment installation.

(6) Wind Monitoring. The Facility Owner or Operator shall install, operate and maintain, according to manufacturer's specifications, a weather station or other permanent device to monitor and log wind speed and wind direction at the Facility at an unobstructed, unsheltered area, centrally positioned in relation to the storage piles, and at a minimum height of 10 meters above ground level, unless another height is appropriate pursuant to applicable U.S. Environmental Protection Agency protocols and guidance.

(7) Conveyors. All conveyors shall be covered or enclosed conveyors in order to reduce or eliminate fugitive dust emissions to the maximum extent practicable.

(8) Transfer Points. The Facility Owner or Operator shall maintain all material transfer points in compliance with one of the following measures in order to ensure compliance with the opacity limit set forth in 3.0(2)(b):

a) Total enclosure;

b) Water spray system sufficient to control Fugitive Dust emissions during operations;

c) Vented to air pollution control equipment which is in full operation and permitted by the Commissioner; or

d) Transfer only Moist Material and conduct such transfer in a manner that minimizes the exposed drop.

(9) Transport. When transport is by truck, the Facility Owner or Operator shall ensure that:

a) All vehicles and off-road mobile heavy equipment handling or transporting bulk solid material shall adhere to the posted speed limit within the Facility, which shall be no more than 8 miles per hour;

b) Except for Existing Facilities, material is received or transferred only in truck trailers that, within one quarter mile of the perimeter of the Facility and within the City of Chicago, are driven only on paved roads;

c) All outgoing material transport trucks, whether loaded or empty, are cleaned so that:

i. Any part of any tractor, trailer or tire exterior surface, excluding the inside of the trailers, are free of all loose material; and

ii. The material removed by the truck cleaning operation is collected and recycled or otherwise disposed of so that it does not result in Fugitive Dust emissions.

d) All outgoing material transport trucks, whether loaded or empty, pass through a wheel wash station and pass over rumble strips that will vibrate the trucks and shake off loose material and dust, unless the approved Fugitive Dust Plan specifies other measures to ensure that the trucks will not cause any track-out of materials onto the public way.

(10) Vehicle Covering and other Dust Control. The Facility Owner or Operator shall not load material into any truck trailer, railcar, or barge unless measures are in place to prevent material from escaping from the Vehicle as follows:

a) Truck trailers must be immediately covered after being loaded in one of the following manners:

i. A solid sliding cover or stackable cover on the top of the truck trailer that is kept completely closed except during loading; or
ii. A continuous tarp that completely covers the truck trailer and that is installed or constructed to prevent wind from entering over the leading edge of the trailer rim into the interior of the trailer.

b) Railcars and barges must be loaded in a manner that will control dust through the use of best management practices such as, but not limited to, the use of solid covers, the application of dust suppression agents and/or water, and the profiling of materials to prevent wind erosion.

(11) Vehicle Leaking. Facility owners or operators shall not load material into truck trailers, railcars, or barges such that a vehicle leaks material or liquid that contains material onto Internal Roads or into waterways. If a vehicle leaks material or liquid that contains material onto an Internal Road or into a waterway, the Facility Owner or Operator shall clean the affected road within one hour with a street sweeper or water and shall clean the affected waterway immediately.

(12) Truck Loading and Unloading. For enclosed Coke or Coal Bulk Material storage piles, the Facility Owner or Operator shall conduct material truck loading and unloading only in an enclosed structure that is either equipped with a water spray

system to be used as needed to prevent visible dust emissions or vented to permitted air pollution control equipment that is operated during loading and unloading activities. The ends of the structure shall have overlapping flaps that reduce the opening, sliding doors which shall remain closed except to allow the trucks to enter and leave, or other equally effective devices. For outdoor Bulk Solid Material storage, the Facility Owner or Operator shall ensure that truck loading and unloading occurs in compliance with the requirements for Transfer Points specified in 3.0(~~7~~8).

(13) Railcar Loading and Unloading. For enclosed Coke or Coal Bulk Material storage piles, the Facility Owner or Operator shall conduct railcar material loading and unloading only in an enclosed structure that is either equipped with a water spray system operated to prevent visible dust emissions, or vented to permitted air pollution control equipment that is operated during loading and unloading activities. The ends of the structure shall have overlapping flaps, sliding doors or other equally effective devices, which shall remain closed except to allow the railcars to enter and leave. For outdoor Bulk Solid Material storage, the Facility Owner or Operator shall ensure that railcar loading and unloading occurs in compliance with the requirements for Transfer Points specified in 3.0(8).

(14) Barge and Boat Loading and Unloading. The Facility Owner or Operator shall conduct barge/boat material loading only through an enclosed chute that uses a water spray system, or an air pollution control system or other mechanism described in the approved Fugitive Dust Plan, in order to control Fugitive Dust emissions during operations. Barge unloading shall be conducted in a manner that will minimize dust in accordance with measures set forth in the Fugitive Dust Plan and in compliance with the requirements for Transfer Points specified in 3.0(8).

(15) Paving. The Facility Owner or Operator shall pave, with a durable material that is not susceptible to becoming windborne, and in a manner sufficient to bear the expected level of traffic at the Facility, and maintain as paved all Internal Roads within the Facility that are used for transporting or moving material.

(16) Roadway Cleaning. In order to clean roads of spilled and tracked material, the Facility Owner or Operator shall use a street sweeper to clean any paved road that is used to transport material inside or within one quarter mile of the perimeter of the Facility and shall comply with all of the following requirements:

a) The street sweeper shall be equipped with a water spray, for use during non-freezing weather, and a vacuum system to prevent Fugitive Dust during street sweeping;

b) The street sweeping shall be sufficient so that not more than 4 hours elapses between each street sweeper cleaning or after every 100 truck material receipts or dispatches, but not less than one time daily when the Facility is open for business, unless the roads are free and clear of any material transported to or from the Facility; and

c) Each 24 hour day, the day beginning at 12:01 A.M., the Facility Owner or Operator shall document whether for that day the Facility Owner or Operator is street sweeping every four hours or every 100 trucks, or whether the roads are free and clear of any material transported to or from the Facility. The record shall show the date and time when street sweeping was performed and the truck count, as applicable.

(17) Spilled Material. The Facility Owner or Operator shall maintain all areas within the Facility not regularly used for storage of material free of any spilled or misplaced material by removing such material by the end of each work shift.

(18) Recordkeeping. The Facility Owner or Operator shall keep and maintain Facility logs as follows:

a) Record daily, all cleaning and street sweeping;

b) Record daily, the weather conditions, including wind speed and direction, documented by the weather station or other device installed pursuant to 3.0(6);

c) Record the application of water and/or Chemical Stabilizer pursuant to paragraphs 3.0(7), 3.0(9), 3.0(11), 3.0(12), 3.0(13), and/or 5.0(7), as applicable, and note any instances when such application is suspended for any reason, including but not limited to, weather conditions;

d) Record any instances when activities are suspended due to high winds as required by paragraph 7.0(4), as applicable;

e) Record the results of the continuous monitoring for Fugitive Dust as required in paragraph 3.0(4), indicate any instances when a monitor detects Fugitive Dust that exceeds the Reportable Action Level set forth in the Fugitive Dust Plan, and record the action taken to respond to the detection of Fugitive Dust;

f) Record quarterly, the results of the tests of visual Fugitive Dust and opacity as required in paragraph 3.0(2)(d);

g) Record the results of the filter-based metals monitoring as required in paragraph 3.0(5) or 6.0, as applicable;

h) Maintain a schedule for routine inspection, maintenance, and testing of all control measures, devices, and technologies, including a schedule for inspection of Bulk Solid Material piles, inspection of all monitors, and inspection of off-site areas for the presence of dust; and identify the person or persons responsible for such inspections, maintenance, and testing;

i) All records required to be kept pursuant to these Rules shall be kept and maintained at the Facility and be available for inspection for a minimum of three (3) years from the date the record is created.

PART C: COKE OR COAL BULK MATERIAL FACILITIES

4.0 Enclosure of Coke and Coal. The Owner or Operator of a Coke or Coal Bulk Material Facility shall maintain all Coke and Coal in fully enclosed structures in accordance with the enclosure requirements set forth in 4.0(2).

(1) Enclosure Plan. The owner or operator of any Coke or Coal Bulk Material Facility shall submit to the Department for review and approval a plan (the "Enclosure Plan") for total enclosure of all coke piles, coal piles, conveyors, Transfer Points, and Processing areas at the Facility. The Enclosure Plan shall include:

a) A construction schedule prepared using the critical path method for completion of engineering, procurement, permitting, and construction of the enclosure; and

b) An Interim Fugitive Dust Plan that shall include, at a minimum, the following components:

i. A site map, drawn to scale, depicting the following information:

1. Facility boundaries;

2. All buildings, Internal Roadways and utilities on Facility property;

3. All roadways within one quarter mile of the perimeter of the Facility that are within the City of Chicago and that are used for transport of material to or from the Facility;

4. All potential emissions points at the Facility, including a depiction of the footprints of all Coke or Coal Bulk Material piles;

5. The locations of all control devices and monitoring devices, including the fugitive dust monitors required under 3.0(4) and the wind speed monitor required under 3.0(6);

ii. A site map, drawn to scale, depicting the boundaries of any associated Coke or Coal Bulk Material Facility owned or operated by the Owner or Operator at which the Owner or Operator intends to temporarily store Coke or Coal Bulk Materials during implementation of the Enclosure Plan, and including all the information required in 4.0(1)(b)(i) above;

iii. A description of the Facility's operations, including a list of all Coke or Coal Bulk Materials handled at the Facility or any associated Coke or Coal Bulk Material Facility;

iv. A description of all control measures, devices, and technologies to be used to minimize and control Fugitive Dust during transport to or from the Facility and any associated Coke or Coal Bulk Material Facility while

materials are staged, loaded, unloaded, Processed, or otherwise handled at the Facility and any associated Coke or Coal Bulk Material Facility;

v. A dust monitoring plan that describes the placement, operation, and maintenance of the PM10 monitors required under paragraph 3.0(4), including an explanation of the Reportable Action Level;

vi. A contingency plan describing the Owner's or Operator's response activities when the monitors required under paragraph 3.0(4) detect PM10 that exceeds the Reportable Action Level established pursuant to 3.0(3)(e)(i) above, and a contingency plan for an alternative method of monitoring in the event of malfunction or failure of the approved PM10 monitors; and

vii. A description of the Facility's recordkeeping system, which shall include a schedule for routine inspection and maintenance of the control measures, devices, and technologies, and the identity of the person or persons responsible for such maintenance and testing.

(2) Enclosure Requirements. Fully enclosed structures or buildings for all Coke and Coal handling, storage, and transfer operations must meet the following requirements:

a) They shall be completely roofed and walled, entirely surround Coke or Coal Bulk Materials, and be designed, permitted, and constructed in accordance with applicable Building Code requirements.

b) They shall be properly maintained.

c) They shall use a permitted air pollution control system and/or have the ability to apply water to materials within the structure or building in order to control Fugitive Dust emissions sufficiently at designed vents and at any other openings, including entrances and exits; and

d) Any entrances or exits for material or Vehicles shall have overlapping flaps or sliding doors, which shall remain closed except to allow material or Vehicles to enter and leave or to allow people to enter and exit. Devices other than overlapping flaps or sliding doors may be used instead if the Fugitive Dust Plan demonstrates that the performance for dust control at the openings will be equivalent or superior to that of overlapping flaps and sliding doors.

(3) Interim Requirements. During implementation of the Enclosure Plan, Coke and Coal may be maintained in outdoor stockpiles subject to the following:

a) The approved Interim Fugitive Dust Plan required in 4.0(1)(b);

b) The requirements for all Bulk Storage Material Facilities set forth in Part B above; and

c) The requirements for outdoor storage of bulk solid materials set forth in Part D below.

PART D: MANGANESE-BEARING BULK MATERIAL FACILITY OPERATIONS

5.0 Enclosure of Manganese-Bearing Bulk Material. The Owner or Operator of a Manganese-Bearing Bulk Material Facility shall maintain all Non-Packaged Manganese-Bearing Bulk Material in fully enclosed structures in accordance with the enclosure requirements set forth in 5.0(2) below. The operations covered by this full enclosure requirement include, but are not limited to, all piles, conveyors, transfer points, and processing areas.

(1) Enclosure Plan. The owner or operator of any Manganese-Bearing Bulk Material Facility shall submit to the Department for review and approval a plan (the "Enclosure Plan") for total enclosure of all Manganese-Bearing Bulk Material piles, conveyors, Transfer Points, and Processing areas at the Facility. The Enclosure Plan shall include:

a) For Facilities where a structure adequate to comply with these Rules does not already exist, a construction schedule prepared using the critical path method for completion of engineering, procurement, permitting, and construction of the enclosure; and

b) An Interim Fugitive Dust Plan that shall include, at a minimum, the following components:

i. A site map, drawn to scale, depicting the following information:

1. Facility boundaries;

2. All buildings, Internal Roads, and utilities on Facility property;

3. All roadways within one quarter mile of the perimeter of the Facility that are within the City of Chicago and that are used for transport of material to or from the Facility;

4. All potential emissions points at the Facility, including a depiction of the footprints of all Manganese-Bearing Bulk Material piles;

5. The locations of all control devices and monitoring devices, including the fugitive dust monitors required under 3.0(4) and the wind speed monitor required under 3.0(5);

ii. A site map, drawn to scale, depicting the boundaries of any associated Manganese-Bearing Bulk Material Facility owned or operated by the Owner or Operator at which the Owner or Operator intends to temporarily store Manganese-Bearing Bulk Material during implementation of the Enclosure Plan, and including all the information required in 5.0(1)(b)(i) above;

iii. A description of the Facility's operations, including a list of all Manganese-Bearing Bulk Material handled at the Facility or any associated Manganese-Bearing Bulk Material Facility;

iv. A description of all control measures, devices, and technologies to be used to minimize and control Fugitive Dust during transport to or from the Facility and any associated Manganese-Bearing Bulk Material Facility while materials are staged, loaded, unloaded, Processed, or otherwise handled at the Facility and any associated Manganese-Bearing Bulk Material Facility;

v. A dust monitoring plan that describes the placement, operation, and maintenance of the PM10 monitors required under paragraph 3.0(4), including an explanation of the Reportable Action Level;

vi. A contingency plan describing the Owner's or Operator's response activities when the monitors required under paragraph 3.0(4) detect PM10 that exceeds the Reportable Action Level established pursuant to 3.0(3)(f)(i) above, and a contingency plan for an alternative method of monitoring in the event of malfunction or failure of the approved PM10 monitors; and

vii. A description of the Facility's recordkeeping system, which shall include a schedule for routine inspection and maintenance of the control measures, devices, and technologies, and the identity of the person or persons responsible for such maintenance and testing.

(2) Enclosure Requirements. Fully enclosed structures or buildings for all Manganese-Bearing Bulk Material handling, storage, and transfer operations must meet the following requirements:

a) They shall be completely roofed and walled, entirely surround Manganese-Bearing Bulk Material, and be designed, permitted and constructed in accordance with applicable Building Code requirements.

b) They shall be properly maintained.

c) They shall use a permitted air pollution control system and/or have the ability to apply water to materials within a structure in order to control Fugitive Dust emissions sufficiently at designed vents and at any other openings, including entrances and exits; and

d) Any entrances or exits for material or Vehicles shall have overlapping flaps or sliding doors, which shall remain closed except to allow material or Vehicles to enter and leave or to allow people to enter and exit. Devices other than overlapping flaps or sliding doors may be used if the Fugitive Dust Plan demonstrates that the performance for dust control at the openings will be equivalent or superior to that of the overlapping flaps or sliding doors.

(3) Enclosure Cleaning. The Facility Owner or Operator must take measures to prevent manganese-containing fugitive dust from escaping the enclosed structure by maintaining good housekeeping practices. These practices must include, but are not limited to, the following:

a) Sweep the aisles at least once per shift on days when material is being transferred or otherwise handled; and

b) Water exterior doorways, including the floor, road, or pavement inside, outside, and near the doorways, at least once per shift on days when material is being transferred or otherwise handled.

6.0 Filter-Based Metals Monitoring at Manganese-Bearing Bulk Material Facilities. The Facility Owner or Operator of a Manganese-Bearing Bulk Material Facility must install, operate, and maintain, according to manufacturer's specifications, one Federal Reference Method (FRM) PM10 filter-based monitoring site at the Facility in accordance with the requirements specified below:

a) The Facility Owner or Operator must submit to the Department, for review and approval, a metals monitoring plan that sets forth a proposed location for the FRM monitor. Once approved, the manganese monitoring plan shall become a part of the Facility's Fugitive Dust Plan. The metals monitoring plan shall include a description of the placement, operation, and maintenance of the FRM monitor required under this section.

b) The FRM monitor shall be placed at a location specified in the approved metals monitoring plan required under 6.0(a) and consistent with the most recent U.S. Environmental Protection Agency protocols and guidance for ambient air quality monitoring siting criteria.

c) PM10 concentrations from filter-based sampling shall be determined according to 40 CFR 50, Appendix J to Part 50 – "Reference Method for the Determination of Particulate Matter as PM10 in the Atmosphere."

d) The PM10 filter-based instruments shall meet the specifications of FRM monitors, and the filter-based sampling shall follow the 3-day EPA Monitoring Schedule for 2018, each as posted on the U.S. Environmental Protection Agency website.

e) The PM10 filters collected will undergo gravimetric analysis and determination of the concentration of manganese in the collected sample. In addition, the collected sample will undergo gravimetric analysis and determination of the concentration of other toxic or hazardous substances, which may include arsenic, cadmium, chromium, lead, nickel, and vanadium, if the Department determines that the materials handled at the Facility are likely to contain such substances. The analyses and determinations must be specified in the approved metals monitoring plan and follow a current FRM/FEM laboratory method listed by the U.S. Environmental Protection Agency.

f) All data collected shall be consistent with units in the National Ambient Air Quality Standards for PM10, and ambient monitoring practices must comply with the most recent U.S. Environmental Protection Agency protocols and guidance for ambient air quality monitoring, including but not limited to those for quality assurance, data completeness, calibration, inspection, maintenance, and site and instrument logs.

g) The Facility Owner or Operator shall maintain a log of all routine and non-routine maintenance and calibration activities associated with each fugitive dust monitor.

h) Manganese concentrations as monitored under this section shall not exceed the ML. Exceedance of the ML constitutes a condition detrimental to health and is a violation of Section 7-28-060 of the Code.

i) On a monthly basis, the Facility Owner or Operator shall submit the raw laboratory data from the FRM filter-based PM_{10} monitor. The monthly filter-based monitoring reports shall be submitted within 28 days of the end of the month in which the data was collected, via email to CDPHPermits@cityofchicago.org, in a format specified by the Department.

PART E: OUTDOOR STORAGE OF BULK SOLID MATERIALS OTHER THAN COKE OR COAL

7.0 Outdoor Bulk Solid Material Storage. The Facility Owner or Operator may maintain outdoor Bulk Solid Material storage if the Facility meets all of the following requirements.

(1) Setbacks. Bulk material storage piles shall be located in accordance with setback requirements established in the Chicago Zoning Ordinance.

(2) Height Limit. The vertical distance from grade immediately adjacent to a pile to the highest point of that pile shall be no greater than 30 feet. The Facility Owner or Operator shall install and maintain a post or other visible measurement marker to demonstrate the height of each pile.

(3) Protection of Waterways. Outdoor storage piles shall be set back at least 50 feet from any waterway, except that material in the process of being unloaded from or loaded to a barge may be located within 50 feet of a waterway for a period of time not to exceed 24 hours so long as no materials will fall, erode, be thrown, discharged, dumped, disposed of, or deposited in the waterway at any time.

(4) High Wind Events. Disturbance of outdoor Bulk Solid Material piles, including but not limited to outdoor loading, unloading, and any other Processing, shall be suspended during High Wind Conditions, as detected by the wind monitor required under 3.0(6), unless alternate measures are implemented to effectively control dust in accordance with the approved Fugitive Dust Control Plan.

(5) Dust Suppressant System. The Facility Owner or Operator must apply Chemical Stabilizers and/or maintain and operate water spray bars, a misting system, water spray systems and/or water trucks to prevent Fugitive Dust emissions in violation of 3.0(2), in accordance with the following requirements:

a) Except pursuant to 7.0(5)(c) below, the dust suppressant system shall be operable and able to dispense water, water-based solutions, and/or Chemical Stabilizers at all times unless all bulk storage material piles are covered.

b) When the temperature falls below 32 degrees Fahrenheit, the Facility must use Chemical Stabilizers and/or water heating systems to ensure that dust suppression continues.

c) If any part of the dust suppressant system is undergoing maintenance or otherwise becomes inoperable, the Facility Owner or Operator must suspend disturbance of Bulk Material piles that would be controlled by the inoperable portion of the dust suppressant system until such time as the system becomes operable again.

(6) Runoff Management. The Facility Owner or Operator shall install and maintain stormwater management, erosion and sediment controls sufficient to:

a) Prevent runoff from the pile onto neighboring parcels, public ways, or any water bodies;

b) Prevent runoff from entering into public sewers or any entry points into the stormwater collection system, unless such discharges are in compliance with all applicable discharge permits;

c) Address timely and effective ways to respond to spills and/or visible migration of pollutants that could occur onsite or offsite;

d) Demonstrate that the site is graded in such a way as to ensure proper drainage and to prevent pooling of water; and

e) Ensure compliance with an approved Stormwater Management Plan pursuant to Chapter 11-18 of the Municipal Code, as applicable.

PART F: COMPLIANCE

8.0 Implementation Schedule. These Rules shall take effect in three phases as follows:

(1) Parts A, B, C, E, and F shall take effect immediately upon issuance of these Rules;
(2) Part D, Section 6.0(a) shall take effect within thirty days.
(3) All other Sections of Part D shall take effect ninety days from the issuance of these Rules.

The Commissioner may, at the Commissioner's sole discretion, grant extensions of the timeframes provided, in accordance with the Variance provisions set forth in 10.0 below, upon request and only for good cause shown by the Facility Owner or Operator.

9.0 Penalties. In accordance with Section 11-4-810 of the Code, any person who violates any provision of these Rules shall be fined not less than $1,000 nor more than $5,000. Each day of any violation of these Rules shall constitute a separate and distinct offense, and for each such violation the fines imposed shall be assessed per day.

10.0 Variance from Rules.

(1) Applications for a Variance. The Facility Owner or Operator may apply to the Commissioner for a variance from any Regulation set forth in Parts B, D, E, or F above in accordance with the provisions set forth in 10.0(2) below.

(2) Requirements of the Variance Application. The request for a variance must be in writing and must set forth, in detail, all of the following:

a) A statement identifying the regulation or requirement from which the variance is requested;

b) A description of the process or activity for which the variance is requested, including pertinent data on location, size, and the population and geographic area affected by, or potentially affected by, the process or activity;

c) The quantity and types of materials used in the process or activity in connection with which the variance is requested, as appropriate;

d) A demonstration that issuance of the variance will not create a public nuisance or adversely impact the surrounding area, surrounding environment, or surrounding property uses;

e) A statement explaining:

i. Why compliance with the Rules imposes an arbitrary or unreasonable hardship;

ii. Why compliance cannot be accomplished during the required timeframe due to events beyond the Facility Owner or Operator's control such as permitting delays or natural disasters; or

iii. Why the proposed alternative measure is preferable.

f) A description of the proposed methods to achieve compliance with the Rules and a timetable for achieving that compliance, if applicable;

g) A discussion of alternate methods of compliance and of the factors influencing the choice of applying for a variance;

h) A statement regarding the person's current status as related to the subject matter of the variance request;

i) For any request for a variance from the enclosure deadline set forth in 6.0(5), the applicant must submit all of the information required in sections 10.0(2)(a) through (h) above and shall also submit 1) fugitive dust monitoring reports for the four months prior to the date of the variance application and 2) in the event that the variance is granted, monthly fugitive dust monitoring reports for the duration of the variance which shall be due fourteen (14) days following the end of the month which the report covers. The monthly fugitive dust monitoring reports required by this section shall be submitted in an electronic format as specified in the Variance.

(3) Criteria for Reviewing Applications.

a) In determining whether to grant a variance, the Commissioner will consider public comments received pursuant to 10.0(4) and will evaluate the information provided in the application to meet the requirements of 10.0(2). Particular consideration will be given to the following information:

i. Inclusion of a definite compliance program;

ii. Evaluation of all reasonable alternatives for compliance;

iii. Demonstration that any adverse impacts will be minimal.

b) The Commissioner may deny the variance if the application for the variance is incomplete or if the application is outside the scope of relief provided by variances.

c) The Commissioner may grant a variance in whole or in part, and may attach reasonable conditions to the variance, or require alternative measures, to ensure minimization of any adverse impacts and to accomplish the purposes of Chapter 11-4 of the Code.

d) Issuance of a variance is at the sole discretion of the Commissioner. A variance may be revoked at any time if the Commissioner finds that operation of the Facility is creating a public nuisance or otherwise adversely impacting the surrounding area, surrounding environment, or surrounding property uses.

(4) Change in Facility Operations. If any part of the Facility's operation that is the subject of the variance expands or changes, then, at least thirty (30) days prior to the expansion or change in operation, the Facility Owner or Operator shall notify the Commissioner and either a) apply for a new variance or b) notify the Commissioner of the Owner or Operator's intent to comply with the regulation(s) that were the subject of the variance, in which case the variance will automatically terminate.

(5) Notice of Variance Applications. The Commissioner will not grant any variance under this section until members of the public have had an opportunity to submit written comments on the variance application. Public notice of all variance applications will be provided by publication in a newspaper of general circulation published within the city and by publication on the city's website. The Commissioner will accept written comments for a period of not less than thirty (30) days from the date of the notice.

11.0 Other Laws. These Rules in no way affect the responsibilities of the Facility owner and operator to comply with all other applicable federal, state or City laws, ordinances, or Rules, including but not limited to those regarding the construction, operation, maintenance, and closure of the Facility.

12.0 Severability. If any clause, sentence, paragraph, subsection, Section, or Part of these Rules is adjudged by any court of competent jurisdiction to be invalid, that judgment shall not affect, impair or invalidate the remainder of these Rules, but shall be confined in its operation to the clause, sentence, paragraph, subsection, Section or Part to which the judgment is rendered.

(Adopted December 2, 1983)(Amended June 11, 1999)
(Amended July 11, 2008)

RULE 1158. STORAGE, HANDLING, AND TRANSPORT OF COKE, COAL AND SULFUR

(a) Purpose

The purpose of this rule is to reduce the emissions of airborne particulate matter from the storage, handling, and transport of coke, coal and sulfur; and to reduce the potential for the storage, handling and transport of these materials to violate AQMD Rules 402 – Public Nuisance and 403 – Fugitive Dust.

(b) Applicability

This rule applies to the operator of a facility that produces, stores, handles, transports, or uses coke, coal or sulfur.

(c) Definitions

For the purpose of this rule:

(1) ACCUMULATION is any surface deposit of material greater than three ounces in one square foot other than inside an approved storage area, conveyor, transport vehicle, coker pit, slurry bin, water collection channel or separation pond.

(2) AQMD PERMITTED FACILITY is a facility that has material storage or handling equipment required to have permits to operate from the AQMD.

(3) BEST AVAILABLE CONTROL MEASURES represent fugitive dust control actions which are required to be implemented within the boundaries of the South Coast Air Basin. A detailed listing of best available control measures for each fugitive dust source type shall be as contained in the most recent Rule 403 Implementation Handbook, now or hereafter adopted by the Governing Board.

(4) CALCINED COKE is coke which has been processed in a kiln.

(5) CHEMICAL STABILIZER is any non-toxic chemical dust suppressant which is not prohibited for the uses proposed in this Rule or by any other applicable law, and which meets all applicable specifications required by any federal, state, or local water agency.

(6) COAL is a solid, brittle, carbonaceous rock classified as anthracite, bituminous, subbituminous, or lignite by ASTM Designation D388-77.

(7) COKE is a solid carbonaceous residue produced from a coker after cracking and distillation from petroleum refining operations.

(8) COKER PIT is an open-top containment area at a refinery coker unit used to contain cut or cracked petroleum coke.

(9) CONTAMINATED MATERIAL means a material that has become mixed with other materials or dirt so that it is no longer considered material or no longer meets marketable product specifications.

(10) CONVEYOR SHUTTLE or TRAVELER or TRIPPER is a device supporting a conveyor that can travel forwards or backwards along a feed conveyor as needed to allow the conveyor to load material onto a selected area of a ship or pile.

(11) DEWATERING TRUCK-LOADING BIN is a cylindrical tank with a funnel-shaped bottom which receives material in a slurry form and separates the solids from water by filters and gravity, eventually discharging the solids into a truck.

(12) DRY MATERIAL is any coke, coal, or sulfur, that does not meet this Rule's definition for moist material.

(13) ENCLOSED CONVEYOR is a conveyor which is totally enclosed in a tube or encompassed 360 degrees within a solid plane structure, or an equivalent conveying system as approved by the Executive Officer.

(14) ENCLOSED STORAGE is any completely roofed and walled structure or building, including a truck or railcar covered pursuant to subparagraphs (d)(12)(A), (B), (C), or (D), surrounding an entire coke, coal or sulfur pile.

(15) FACILITY means any source or group of sources or other air contaminant-emitting activities which are located on one or more contiguous properties within the AQMD, in actual physical contact or separated solely by a public roadway or other public right-of-way, and are owned or operated by the same person (or by persons under common control), or an outer continental shelf (OCS) source as determined in 40 CFR Section 55.2. Such above-described groups, if noncontiguous, but connected only by land carrying a pipeline, shall not be considered one facility. Sources or installations involved in crude oil and gas production in Southern California Coastal or OCS Waters and transport of such crude oil and gas in Southern California Coastal or OCS Waters shall be included in the same facility which is under the same ownership or use entitlement as the crude oil and gas production facility on-shore.

(16) FREEBOARD is the distance from the top of the material storage section of the truck trailer to the top of the material load at its highest point.

(17) FUGITIVE DUST means any solid particulate matter that becomes airborne by natural or man-made activities, excluding particulate matter emitted from an exhaust stack.

(18) HIGH WIND CONDITIONS is when wind speeds exceed 15 miles per hour.

(19) LOOSE means material that can be swept off a surface by a person using a whisk broom.

(20) MATERIAL means any substance containing at least 50% by weight of coke, coal, or sulfur. The percent by weight shall be determined by at least a one ounce sample taken at any random point.

(21) MOIST MATERIAL is material that has a moisture content that in no place is less than the following: coke material 8.3%, coal material 7.6%, and sulfur material 2.8%.

(22) NON-LUMP MATERIAL means any coke, coal, or sulfur material which can pass through a 6.3 millimeter sieve (1/4 inch opening).

(23) OPEN STORAGE is any material coke, coal or sulfur pile that is not in enclosed storage.

(24) PAVED means improved by covering with concrete, asphaltic concrete, recycled asphalt, or asphalt.

(25) PERMANENT WATER RECYCLING SYSTEM DEWATERING BED is a below-ground, open-top containment vessel, used in conjunction with a water reclamation system, to reduce moisture content of bulk material removed from a water clarifier for the purpose of disposal.

(26) PILE means any amount of coke, coal or sulfur material which attains a height of three feet or more, or a total surface area of 150 square feet or more.

(27) PRILLED SULFUR is a product formed in a wet process involving the contact of heated liquid sulfur with cooled water, resulting in a sphere-like solid.

(28) ROAD means any route with evidence of repeated prior travel by vehicles.

(29) SEPARATION POND means a container for separating coke from water by gravity, which has a liquid water surface at all points.

(30) SILT is any particulate, including but not limited to coal, coke, or sulfur, with a particle size less than 75 micrometers in diameter as measured by a No. 200 sieve.

(31) SLURRY BIN is a container located at a refinery coker unit or its associated coke handling system holding a watery mixture of material.

(32) STREET SWEEPER is, if purchased or contracted for before January 1, 2000, a vacuum or regenerative air street sweeper, and if purchased or contracted for on or after January 1, 2000, is a PM10 street sweeper pursuant to Rule 1186 – PM10 Emissions from Paved and Unpaved Roads & Livestock Operations.

(33) SULFUR is a chemical element, atomic number 16 on the periodic chart, and which is found in crystalline or amorphous form.

(34) TELESCOPING LOADING CHUTE is a length adjustable chute which completely encloses the material during ship loading operations.

(35) TRACKIN – TRACKOUT ROAD is a road (excluding freeways), starting from the entrance or exit of the facility property and continuing away from the property for the first quarter mile of the road, that a truck trailer, used for material transport, travels on.

(36) TRANSFER POINT is the point in the storage, handling or transport process where material being moved, carried, conveyed, or transported is dropped or deposited.

(37) VEHICLE is any car, truck, in-service transportation, or off-road mobile heavy equipment.

(38) WATER SPRAY SYSTEM means a dust suppression technique that uses water or water-based solutions delivered through pipes, tubes, or hoses that are fitted with one or more nozzles and operated at pressures ranging from 1 to 1500 psi.

(39) WIND SCREENS are structures that are sufficient to deflect the wind away from conveyed material and reduce fugitive dust emissions, and are adjacent to both sides of and extend along the entire length of the conveyor, tall enough to extend above and below the conveyor and material.

(d) Any facility that produces, handles, transports, or stores coke, coal, or sulfur material for transfer or shipment shall comply with all of the following requirements:

(1) The facility operator shall not cause, or allow the discharge into the atmosphere of, fugitive dust for a period or periods aggregating more than three minutes in any one hour which is equal to or greater than 10% opacity (equivalent to 10% opacity under EPA Method 9 or one half of No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines).

(2) The facility operator shall maintain all piles in enclosed storage.

(A) Structures or buildings used for enclosed storage shall be properly maintained, equipped with and use as needed, a water spray system or permitted air pollution control equipment sufficient to control fugitive dust emissions at designed vents and at entrances or exits for material or vehicles so as not to violate the provisions of paragraph (d)(1).

(B) Any entrance or exits for material or vehicles shall have overlapping flaps, sliding doors or other devices(s) approved by the Executive Officer, which shall remain closed except to allow material or vehicles to enter and leave or when people are inside.

(C) For coal and prilled sulfur piles existing before June 11, 1999, the facility operator may achieve compliance with outdoor storage provided that the Executive Officer approves an open pile control plan, pursuant to subdivision (f).

(3) The facility operator shall only conduct material truck unloading in an enclosed structure that is either equipped with a water spray system to be used as needed to prevent visible dust emissions or vented to permitted air pollution control equipment that is operated during unloading activities. The ends of the structure shall have overlapping flaps that reduce the opening to no greater than 11 feet high by 10 feet wide, sliding doors which shall remain closed except to allow the trucks to enter and leave, or other equally effective devices as approved by the Executive Officer.

(4) The facility operator shall only conduct railcar material unloading in an enclosed structure that is either equipped with a water spray system operated to prevent visible dust emissions, or vented to permitted air pollution control equipment that is operated during unloading activities. The ends of the structure shall have overlapping flaps, sliding doors or other equally effective devices as approved by the Executive Officer, which shall remain closed except to allow the railcars to enter and leave.

(5) The facility operator shall pave and maintain as paved, the following areas:

(A) All ground surfaces within the facility where material accumulations routinely occur; and,

(B) All roads and vehicle movement areas within the facility that are used for transporting or moving material excluding AQMD permitted material enclosures and areas approved by the Executive Officer for material storage pursuant to other sections of this Rule.

(6) When transport is by truck, the facility operator shall only receive or transfer material in truck trailers that, within one quarter mile of the perimeter of the facility, are driven only on paved roads.

(7) In order to clean roads of accumulations, the facility operator shall comply with either (A) or (B):

(A) The facility operator shall prevent and remove any material so that the following limits are not exceeded:

(i) A silt loading value, for all silt particles, of 0.05 grams/meter^2 for any trackout road, excluding freeways and railroad tracks; and

(ii) A silt loading value, for all silt particles, of 0.25 grams/meter^2 for all roads and vehicle movement areas excluding railroad tracks within the facility that are used for transporting or moving material.

(B) The facility operator shall use a street sweeper to clean any trackin – trackout road and any road inside the facility, used to transport material.

(i) The street sweeping shall be sufficient so that not more than 4 hours elapses between each street sweeper cleaning or after every 100 truck material receipts or dispatches, but not less than one time daily when the facility is open for business.

(ii) Each 24-hr. day, the day beginning at 12:01 A.M., the facility operator shall designate and record whether for that day the facility operator is street sweeping every four hours or every 100 trucks. The record shall show the date and time when street sweeping was performed and the truck count.

(iii) Facility operators shall begin cleaning up material spills of more than three pounds, or that cover more than a square foot, within one hour and continue clean up operations until the spill is removed.

(C) Prior to the beginning of each calendar quarter the facility operator shall designate and record which alternative, A or B, the facility operator is choosing to comply with during the quarter.

(D) A violation of subparagraph (d)(7)(C) shall be considered a violation of paragraph (d)(7).

(8) The facility operator shall maintain all areas within the facility, except for those areas subject to paragraph (d)(7), free of any accumulation, unless the accumulation is:

(A) moist material;

(B) dry material not higher than three inches, except for crushed prilled sulfur which shall be removed; or

(C) completely covered.

(9) Any new or replacement conveyors constructed after June 11, 1999 shall be enclosed conveyors. For purposes of this paragraph, the installation of a conveyor between two transfer points shall be a replacement conveyor. For conveyors existing before June 11, 1999, the facility operator shall, except for prilled sulfur, only conduct material conveying in compliance with either:

(A) All non-lump material shall be moist material; or,

(B) The material shall be conveyed in an enclosed conveyor(s).

(10) The facility operator shall, except for prilled sulfur, maintain all material transfer points in compliance with one of the following:

(A) Total enclosure;

(B) Water spray system sufficient to control fugitive dust emissions during operations to comply with paragraph (d)(1);

(C) vented to permitted air pollution control equipment which is in full operation;

(D) Transfer only moist material and conduct such transfer only in an overhead truck trailer or railcar loader, or chute with a hopper, such that the exposed drop does not exceed four feet from the top of the truck or railcar; or,

(E) Controlled by another equivalent method approved, in writing, by the Executive Officer.

(11) The facility operator shall only load materials into ships through a telescoping loading chute which uses a water spray system, or an air pollution control system, sufficient to control fugitive dust emissions during operations to comply with paragraph (d)(1), and:

(A) Is extended to within five feet of the top of the pile; or,

(B) Is at least 5 feet below the hatch coaming.

(12) The facility operator of an AQMD permitted facility shall not load material into any truck trailer or railcar unless it is subsequently and immediately covered, before leaving the facility, in one of the following manners sufficient to prevent material from escaping from the trailer or railcar onto the facility property:

(A) A solid sliding cover on the top of the truck or railcar that is kept completely closed, or;

(B) For trucks, a slot-top type cover that reduces the uncovered open surface area by at least 50% and extends above the trailer top edges without gaps; and either the material contained in the trailer is moist material, or a chemical stabilizer is applied to the surface of the material in sufficient amounts and concentration so as to prevent fugitive dust emissions during transport; or,

(C) A continuous tarp that completely covers the trailer or railcar top, and for trucks, does not contact the material within the trailer. In addition, the tarp shall be installed or the trailer/railcar constructed to prevent wind from entering over the leading edge of the trailer/railcar rim into the interior of the trailer/railcar; or

(D) For railcars, an alternative method of control proven effective in preventing visible fugitive PM emissions escaping from the railcar and approved by the Executive Officer prior to its use.

(13) Facility operators shall not load material into truck trailers or railcars such that a trailer or railcar leaks liquid that contains material onto the facility property.

(14) If a truck trailer or railcar leaks liquid that contains material onto the facility property, the facility operator shall clean the affected property within one hour with a street sweeper or water.

(15) The facility operator shall clean all out-going material transport trucks, whether loaded or empty, so that:

(A) Any part of any tractor, trailer or tire exterior surface, excluding the inside of the trailers, are free of all loose material in excess of 1 gram per square decimeter or 10 grams total.

(B) The material removed by the truck cleaning operation is collected and recycled or otherwise disposed of so that it does not result in fugitive dust emissions.

(16) The facility operator shall not load sulfur into trucks or railcars unless:

(A) The sulfur is not greater than 1% crushed prilled sulfur by weight and;

(B) The loading is controlled by an enclosure or water spray system, approved by the Executive Officer, that reduces visible emissions to ensure compliance with paragraph (d)(1).

(e) Any facility that stores material solely for use at the facility either as a fuel or as an ingredient in a manufacturing process shall comply with all of the following requirements:

(1) The facility operator shall not cause, or allow the discharge into the atmosphere of, fugitive dust for a period or periods aggregating more than three minutes in any one hour which is equal to or greater than 10% opacity (equivalent to 10% opacity under EPA Method 9 or one half of No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines).

(2) The facility operator shall maintain all piles in enclosed storage, except as provided in paragraph (3). Any openings shall have overlapping flaps, sliding doors or other equivalent devices(s) approved by the Executive Officer, which shall remain closed except to allow the vehicles to enter or leave.

(3) For facilities existing before June 11, 1999 only, for coal and prilled sulfur, the facility operator may achieve compliance with outdoor storage provided the Executive Officer approves, in advance, an open storage pile control plan, or complies at all times with at least one of the following:

(A) Installs and maintains a three-sided barrier equal to the height of the material, with no more than fifty percent porosity to provide wind sheltering;

(B) Maintains and operates water spray bars, a misting system, water hoses and or water trucks to control fugitive dust emissions;

(C) Applies chemical stabilizer(s) to control fugitive dust emissions;

(D) Installs temporary covers; or

(E) Other equivalent measures approved by the Executive Officer.

(4) Within four hours after material is delivered to the facility by truck trailer, the facility operator shall inspect and clean up any spilled material on any paved road inside or outside the facility up to a quarter mile.

(5) The facility operator shall use a street sweeper to clean any paved road used for material transport, inside or outside the facility, up to a quarter mile from the material delivery site at least once a week or after every 100 truck material deliveries, whichever results in the most frequent street sweeping.

(6) The facility operator shall pave and maintain as paved, except for railroad tracks, the following areas:

(A) All non-road ground surfaces within the facility where material accumulation occurs; and,

(B) All roads and vehicle movement areas within the facility that are used to receive material by truck trailer.

(7) The facility operator shall pave or chemically stabilize and maintain all roads and vehicle movement areas within the facility, that are used for transporting coal.

(8) The facility operator shall prevent, or remove within four hours, any coke accumulations on all paved ground surfaces except for those areas subject to paragraph (3), unless the accumulations are either:

(A) Moist material; or

(B) Dry material not higher than three inches; or

(C) Completely covered.

(9) The facility operator shall prevent, or remove within four hours, any coal deposit higher than three inches on all paved ground surfaces except for those areas subject to paragraph (7), unless the accumulations are either:

(A) Moist material; or

(B) Completely covered.

(10) The facility operator of an AQMD permitted facility shall not allow any truck trailer or railcar, while on the AQMD permitted facility, to transport material unless the trailer or railcar is covered in one of the following

manners, sufficient to prevent material from escaping from the truck/railcar onto the facility property.

(A) A solid sliding cover on the top of the truck or railcar that is kept completely closed, or;

(B) For trucks, a slot-top type cover that reduces the uncovered open surface area by at least 50% and extends above the trailer top edges without gaps; and either the material contained in the trailer is moist material, or a chemical stabilizer is applied to the surface of the material in sufficient amounts and concentration so as to prevent fugitive dust emissions during transport: or

(C) A continuous tarp that completely covers the trailer or railcar top, and for trucks, does not contact the material within the trailer. In addition, the tarp shall be installed or the trailer/railcar constructed to prevent wind from entering over the leading edge of the trailer/railcar rim into the interior of the trailer/railcar.

(D) For railcars, an alternative method of control proven effective in preventing visible fugitive PM emissions escaping from the railcar and approved by the Executive Officer prior to its use.

(11) When transport is by truck trailer, the facility operator shall not receive or transfer material in truck trailers unless such truck trailers, that within one quarter mile of the perimeter of the facility, drive only on paved roads.

(12) The facility operator shall:

(A) Record daily, any material delivery by truck trailer and any related street sweeping;

(B) Record the application of chemical stabilizer pursuant to paragraph (e)(7);

(C) Record the time of discovery, condition (moist or dry and or depth of material) and removal of any accumulations pursuant to paragraphs (e)(4), (e)(8) or (e)(9).

(f) Open Storage Pile Control Plan

The Executive Officer shall disapprove an Open Storage Pile Control Plan unless the facility operator demonstrates that the plan requires the facility operator to implement best available control measures on the pile(s) and provides that no material accumulates beyond the boundaries of the pile and provides that the facility will comply with all applicable AQMD rules. The Plan shall be submitted

as a Rule 1158 Open Pile Control Plan in a complete and approvable form and by the compliance deadline. On and after July 11, 2008, the Executive Officer shall not accept any new Open Storage Control Plan for approval.

(1) In evaluating the proposed plan, the Executive Officer may reasonably require tests and sampling as necessary to determine the likelihood of emission reductions and compliance.

(2) The plan shall be implemented by the facility operator upon approval by the Executive Officer.

(3) The plan shall contain as a minimum:

(A) A contour map showing the location of the facility, the location of all piles, the perimeter boundary of the piles, and the surrounding land use and types of roadways within one quarter mile of the perimeter of the facility.

(B) The maximum daily amount of each material stored within the facility and the maximum daily throughput.

(C) A list of each applicable best available control measure for each fugitive dust source associated with the pile, including sources associated with moving the pile with mechanical equipment, and detailed documentation demonstrating how implementation of each measure will achieve compliance with all applicable AQMD rules under all conditions, including high wind conditions.

(4) In approving a plan, the Executive Officer may require any reasonable conditions deemed necessary to ensure the operation complies with the plan and AQMD Rules. The conditions may include, but shall not be limited to, application frequency and location of water spray systems, frequency of chemical stabilizer treatments, limits on handling, storage and transport of crushed materials, the placement, construction or modification of permanent perimeter boundaries for each pile or group of piles, monitoring wind conditions, advance notification to the Executive Officer of ship loading activities, and performing ambient air monitoring.

(5) In approving a plan, the Executive Officer may require any records deemed necessary to be maintained by the facility operator to demonstrate compliance with the plan. Such records shall be retained for at least 2 years and be made available to the Executive Officer upon request.

(6) The Plan is only valid for one year. If the Executive Officer denies approval, the facility will have 120 days to submit the necessary

applications and two years from the date of the initial denial, to comply with the enclosed storage requirement. In the interim between before the storage pile(s) are enclosed, the Executive Officer may issue an interim plan that requires control measures deemed reasonably necessary to ensure the operation complies with all applicable AQMD Rules.

(7) Compliance with the provisions of the approved plan does not exempt a person from complying with the requirements of the California Health and Safety Code, or any other AQMD Rule.

(g) Compliance Schedule

(1) All existing Rule 1158 Interim or Permanent Compliance Plans are void.

(h) Test Method

(1) ASTM Methods D-3302, D-4931, or equivalent methods approved by the Executive Officer, the California Air Resources Board and the U.S. EPA. shall be used to determine the material moisture content.

(2) Appendix C.1, Procedures for Sampling Surface/Bulk Dust Loading, and Appendix C.2, Procedures for Laboratory Analysis of Surface/Bulk Dust Loading Samples, as contained in Compilation of Air Pollutant Emission Factors (AP-42), as published by the U.S. EPA, or equivalent methods as approved by the Executive Officer, the California Air Resources Board and the U.S. EPA, shall be used to determine the silt loading value.

(3) A method approved as accurate by the Executive Officer shall be used to determine the weight of truck exterior surface material and material silt deposits.

(i) Compliance Determination and Performance Information

(1) For facilities subject to sub-division (d), each calendar quarter, if the facility operator selects the silt loading standard for that calendar quarter, and for all other operators once every calendar year, the facility operator shall perform the following tests pursuant to paragraphs (d)(7) and subdivision (h). Records of tests shall be maintained for a period of two years and shall be made available to District personnel upon request. Results of the test shall be submitted to the Executive Officer within 45 days after completion of each test. For facility operators testing once each calendar year, the test results shall be for information only, not for

compliance determination. Silt loading tests shall be performed on the following roads or surfaces:

(A) On one paved road outside the facility, used by trucks transporting material, within one quarter mile of the exit of the facility; and

(B) On one road between the truck wash or truck cleaning area and the facility exit;

(2) For facilities subject to subdivision (d), each calendar quarter the facility operator shall conduct a test to show compliance with paragraph (d)(15) by sampling truck-trailer exterior surface material on one out-going material transport truck.

(j) Recordkeeping Requirements

The facility operator shall maintain all records at the facility for a period of two years and make them available to AQMD staff upon request.

(k) Exemptions

(1) The provisions of paragraph (d)(9) shall not apply to:

(A) Material feed conveyor(s) existing prior to June 11, 1999 which are interrupted by the conveyor shuttle, traveler or tripper, provided that the entire length of the feed conveyor(s) is equipped with permanent wind screens.

(B) Underground conveyors. This exemption shall only apply to those sections of the conveyors which are underground.

(C) Conveyors located inside enclosed storage. This exemption shall not apply to those sections of the conveyor which are outside of the enclosed storage.

(D) That portion of an existing conveyor belt that contains the tensioner.

(2) The provisions of paragraph (d)(12) shall not apply to prilled sulfur when the freeboard is, in no place, less than 3 feet.

(3) The provisions of this rule shall not apply to the storage, handling, and transport of molten sulfur.

(4) The provisions of paragraph (d)(2) shall not apply to the deposit of coke in separation ponds or that has a moisture content of at least 12% in coker pits, slurry bins, and coke dewatering truck loading bins.

(5) The provisions of paragraph (d)(7) and (e)(5) shall not apply to the specific section of road where public vehicle through-traffic is denied access due to a construction project or road repair.

(6) The provisions of paragraph (d)(11) shall not apply to existing shiploaders permitted prior to June 11, 1999, for loading coal onto ships with a beam length greater than 105 feet whenever all of the following are met:

(A) The facility operator shall maintain a log of the date, time, loading rate, ship capacity, and duration of each use of the headbox by-pass;

(B) A maximum of ten ships with a beam length greater than 105 feet per calendar year are loaded under this exemption and the facility operator demonstrates to the Executive Officer's satisfaction that only the offshore side of the vessel is loaded without the required control equipment;

(C) The shiploader shuttle boom is not long enough to allow discharge through the telescoping spout to reach the far side of that ship's hatch without using the headbox by-pass;

(D) The facility operator notifies the AQMD 48 hours before shiploading is scheduled to commence; and,

(E) The shiploader is not reconstructed or replaced after June 11, 1999.

(7) The provisions of paragraph (d)(2) shall not apply to the following, provided the material or coke is removed within 48 hours and a permanent record is made and the District is notified within the first 24 hours of the incident:

(A) Material taken off a conveyor because it is refused by a ship, or material that is associated with the abatement of a hot coke (greater than 120 degrees Fahrenheit) incident; or,

(B) Coke, up to 700 tons, that is incompletely processed from a refinery coker.

(8) The provisions of paragraph (d)(2) shall not apply to moist material or material associated with a"hot coke" incident being actively transported in a front-end loader.

(9) The provisions of paragraphs (d)(2) and (e)(10) shall not apply to coal inside railcars that originated from outside California, provided the coal is moistened upon arrival at a District permitted facility so as to prevent fugitive emissions pursuant to paragraph (d)(1).

(10) Provisions of paragraph (d)(2) shall not apply to facilities performing routine maintenance/repair of replacing component parts on/in enclosed storage structures, such as roofing and siding material, providing the following conditions are met:

(A) the facility notifies the District, in writing or electronically, at least 10 working days prior to any maintenance/repair activity, of the intent to perform the maintenance/repair and the dates for the activity;

(B) the surface area of components being replaced does not exceed 2% of the total structure surface area;

(C) the duration for maintenance/repair shall not exceed 14 days;

(D) during the maintenance/repair, no materials shall be actively moved or disturbed in the structure;

(E) no visible emission shall be observed; and

(F) any water spray system or air pollution control equipment associated with the structure will be in use as needed to prevent visible emissions during the maintenance/repair operation.

(11) The provisions of paragraph (d)(2) shall not apply to deposits of material in permanent water recycling system dewatering beds, existing prior to July 11, 2008, provided that:

(A) they are totally enclosed by wind fences, stand alone structures, with a maximum porosity of 20%, to reduce windblown dust escaping from the beds and tall enough to provide at least three feet of visible freeboard from the top of the material at all times, to provide wind sheltering, no later than November 11, 2008; and

(B) the surface stabilization is maintained at a moisture content of not less than 12%, at all points, including during material removal; and

(C) no visible emissions shall be observed and shall be visually monitored for, and observations recorded, daily.

Fugitive Dust Plan

S.H. Bell Company

10218 South Avenue O
Chicago, Illinois 60617

Revised, November 2017

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I. Introduction

This Fugitive Dust Plan has been prepared for the S.H. Bell Company (S.H. Bell Co.) Chicago Terminal, located at 10218 South Avenue O, in Chicago, Illinois, in accordance with the City of Chicago Department of Public Health (CDPH) – Rules and Regulation for Bulk Materials Storage, March 13, 2014 (Regulation).

This document, which is an update of the September 2017 Fugitive Dust Plan, meets the Fugitive Dust Plan requirement of Section 3.0(3) of the Regulation. This Fugitive Dust Plan is intended solely for use by CDPH and S.H Bell and cannot be used for any other purpose as it contains information requested by CDPH that is for informational purposes only.

Certification by Owner

S.H. Bell Co. is the owner/operator of the facility and responsible for execution of this Fugitive Dust Plan. S.H. Bell Co. hereby certifies that all control measures, devices, and technologies have been properly calibrated and maintained, all appropriate facility staff has been trained on the proper application of and operation of all control measures, devices, and technologies. Further, the calculation of maximum indoor and outdoor bulk storage capacity as noted herein in Section II is also certified by the facility owner.

Signature: _____

Printed Name: Samuel H. Bell

Title: V.P. / PARTNER

Date: 03 NOVEMBER 2017

II. Facility Description

The S.H. Bell Co. Chicago Terminal (the "facility") consists of the following: an office building; an enclosed jaw crushing/screening plant and screening plant; storage buildings for packaged materials; storage buildings for primary bulk materials; a scale house; barge unloading docks and slips; maintenance shop; packing operations housed inside storage buildings and gravel-covered, landscaped, and asphalt-paved areas.

The entire facility is approximately 25 acres in size with buildings and paved areas constituting more than 95% of the total area. Facility characteristics, as required by Section 3.0(3.a)) of the Regulation are shown on Figures 1 and 2, including approximate locations of:

- Facility boundaries
- Buildings
- Internal roads
- Utilities on facility property
- Roadways within one quarter mile
- Outdoor storage piles
- Control devices, air monitors and the weather station
- Location of primary unloading and transfer operations:
    - Crushing/Screening Plant and Screening Plant
    - Bag Filling with Dust Collector
    - Box Filling with Dust Collector
    - Truck Loading/Unloading
    - Barge Loading/Unloading
    - Railcar Loading/Unloading

Although not specified in this list, each emission unit/source also includes associated transfer points, such as hoppers associated with box and bag filling and the crushing/screening plant. All facility operations are batch processes. The overall duration of each operation is typically based on the amount of material to be handled and may range from less than an hour to across several days, with only intermittent generation of fugitive dust.

<u>Bulk Solid Material Storage Capacity</u>

Approximate indoor area available for storage
Ryerson: 55,000 square feet
Norcon: 28,000 square feet
Total indoor available storage area:83,000 square feet
Average material storage: 0.8 tons/square foot
Maximum density of material: 280 lbs/cubic foot
Indoor bulk material storage capacity: 66,400 tons

Approximate outdoor area available for storage (based on 20' setback from water)
Middle slip: 550' x 75' = 41,250 square feet
West of office: 200' x 150' = 30,000 square feet
Southern Corner: ½ (300' x 300') = 45,000 square feet
Total outdoor available area: 116,250 square feet
Average material storage: 1.2 tons/square foot
Maximum density of material: 280 lbs/cubic foot
Outside bulk material storage capacity: 139,000 tons or 37,000 cubic yards

III. Operations Summary

Materials processed and/or stored at the facility are transported to the facility by barge, rail, and truck. Typical bulk materials currently handled at the facility include: ferro alloys, direct reduced iron (DRI) (not fines), hot briquetted iron (HBI), pig iron, iron ore, and silicon metal.[1] The facility also handles materials that are not bulk materials which do not have the potential to become airborne or scattered by wind, such as graphite electrodes, cast aluminum and steel shapes, including billets, sheet, coil, plates, and slab, packaged materials, and other materials that do not meet the definition of a Bulk Solid Material under Section 2.0(3) of the Regulation.

Ferro alloy materials (bulk or super sacks) that are unloaded are stored within storage buildings or under roof in stall-type bins (Roofed Stall Bins) prior to processing and/or reloading for customer shipment. These materials (alloys) typically cannot be watered, as they lose value if they become wet. Among other problems, wetted steel alloys could create adverse or unintended reactions when used. The maximum indoor storage capacity for bulk materials, including the covered bins, is approximately 66,000 tons. Typically, indoor storage is at 70% capacity. Figure 1 provides a facility layout which shows the location of facility buildings.

For purposes of this Fugitive Dust Plan, "Affected Materials" at S.H. Bell are defined as "ferromanganese materials and other materials with a manganese content (raw material, intermediate, or finished product) that are processed or otherwise handled on site in such a manner that could cause the generation of stack or fugitive emissions containing ferromanganese or manganese compounds. Affected Materials shall not include materials that contain manganese, such as steel ingots, where material is not a source of stack or fugitive emissions containing ferromanganese or manganese compounds."[2]

On average, Affected Materials make up approximately 45% - 60% of the materials handled at the facility. Affected Materials are not stored outdoors.

Bulk materials currently stored outdoors include pig iron, HBI and other non-Affected Materials (aka alloys designated by customer preference). Materials, such as graphite electrodes and cast aluminum and steel shapes, that are not "bulk solid materials" under the Regulation because the material does not have the potential to become airborne or be scattered by wind, are stored outdoors as well. Approximately 25% of the materials handled at the facility, primarily pig iron and alloys, are stored outdoors. S.H. Bell Co. limits the materials that can be stored in outdoor storage piles to those materials that are of predominantly large particle size (greater than ½ inch) and/or materials that can be watered, crusted, and/or tarped. The bulk materials that are stored outdoors are not dusty and are not susceptible to being windblown. Inbound shipments of DRI fines are no longer accepted for storage or re-loading at the facility. The maximum outdoor storage capacity is approximately 140,000 tons. However, typically, outdoor storage piles cover less than half of the available outdoor storage area. The number, size, and composition of outdoor piles vary based on customer requirements and specifications. Figure 1 illustrates the typical location and general size of outdoor storage piles.

Some unloaded bulk and super sack materials are designated for further processing, packaging or both. These process operations include batch crushing, screening, and packaging operations. No crushing or

[1] This plan will be updated if additional materials are to be handled at the facility.

[2] "Affected Materials" are as defined by the Ohio EPA within prior Director's Final Findings and Orders (DFFO) for S.H. Bell Co.'s Stateline Terminal.

screening or packaging of Affected Materials will occur outdoors. Roadways are swept and watered, with dust suppressant applied as needed. All vehicles do not exceed a speed of 8 miles per hour (mph).

Ongoing regular observation of both the source of fugitive emissions and the nearest property line (based on wind direction) are used to determine if additional control or mitigation measures need to be employed in order to meet the source and property line limits. For purposes of this Plan "Visible Fugitive Dust at Source" is defined as observation of opacity at an operation/activity that approaches the applicable opacity limit.

Details of facility control and monitoring measures are provided in the following sections.

IV. Control Measures

This section provides a detailed discussion of the control measures employed by the facility to comply with the applicable regulatory requirements in the Regulation and the additional best management practices that go above and beyond the Regulation for the specific operations and activities performed at the facility. Fugitive Dust is prohibited by the Regulation, such that fugitive dust is not visible beyond the perimeter property line of the facility and opacity at any pile, transfer point, roadway, or parking area does not exceed 10%.

The control measures are presented in the following section, organized by activity type/location:

A. Transfer Points
B. Transport by Truck
C. Roadways
D. Outdoor Storage Piles
E. Affected Material Storage
F. Dust Collectors

For clarity, a summary of the regulatory language is followed by the practices and methods S.H. Bell is using to demonstrate compliance. Sections E and F contain additional dust control measures employed by the facility that do not directly fit within the specific regulatory requirements in the Regulation. A description of the specific Operating Procedures (in decision-tree format) employed at the facility to minimize fugitive dust emissions is also provided for each of the specific operations and activities performed at the facility. Table 1 contains a summary of control measures at transfer points. Appendix A contains the General Operating Procedures employed at the facility for dust control that are detailed in the subsequent sections of this Plan.

A. TRANSFER POINTS

Regulatory Requirement:
Section 3.07 of the Regulation (Transfer Points) requires that: All material transfer points need to be maintained such that fugitive dust does not exceed a 10% opacity limit by using one of four options: a) total enclosure, b) water spray system sufficient to control fugitive dust emissions during operations, c) vented to air pollution control equipment, or d) transfer only moist material in a manner that minimizes the exposed drop.

Facility Compliance Methods:
The majority of Transfer Points at the facility are controlled by either total enclosure or venting to air pollution control equipment (*i.e.*, a dust collector). The remaining limited number of Transfer Points are controlled through a "water spray system" that is accomplished in one of several methods at the facility: direct application, mobile misters, and dry foggers. Each of these methods sufficiently controls fugitive dust emissions during operations and is further described below.

- Direct application of water to bulk material, using a spray system or water addition such as with a front end loader;

- Use of mobile misters to control fugitive dust; dry fugitive dust particles absorb water droplets from the misters causing them to increase in weight and cohesiveness to cause the particles to settle out of the air; and
- Use of dry fogging unit to control fugitive dust, appropriate for use in freezing temperatures; dry foggers have a special air-atomizing nozzle that produces a dry fog consisting of ultra-fine water droplets which wet the dust particles and increase the weight to allow settling.

The goal of the mobile misters and the dry fogging unit is to create a curtain or cloud that encapsulates fugitive particulate matter and causes the fugitive particulate matter to settle out of the air. Appendix A contains the General Operating Procedure for positioning and use of the mobile misters and/or dry fogging unit, applicable to their use anywhere in the facility.

The control measures and operating procedures used at each of the Transfer Points at the facility are provided in detail below. Table 1 provides a summary of the controls used at the Transfer Points at the facility. Additionally, activities at outdoor transfer points are also conducted in accordance with the procedures noted in Section IX, High Wind Events, whenever wind speeds exceed 15 mph over two consecutive 5 minute intervals. The control measures and operating procedures are further delineated between Wetted Materials and Dry Materials and Affected Materials and non-Affected Materials where applicable.

"Wetted Materials" are those bulk materials that are permitted to get wet per customer specifications. The facility ensures that Wetted Materials are sufficiently moist to control fugitive dust emissions through the direct application of water to the material prior to and/or while the material is being deposited at the limited number of Transfer Points controlled through a "water spray system." During freezing conditions, the moisture already existing in the Wetted Materials will freeze and trap fugitive particles.

"Dry Materials" are bulk materials that are not permitted to get wet per customer specifications. For Dry Materials, the facility uses the mobile misters or the dry fogging unit to control fugitive dust emissions when the Dry Materials are being deposited at the limited number of Transfer Points controlled through a "water spray system." The Dry Materials consist mainly of steel alloys, including the majority (but not all) of Affected Materials received at the facility, which are used by the steel industry. Based on customer demand, the Dry Materials may only be at the facility for as short as 48 hours. Steel alloys cannot get wet because of the high potential for risk of explosion and other catastrophic safety concerns when added to molten metal at a furnace.

1. <u>OUTDOOR STORAGE PILES TRANSFER ACTIVITIES</u>

<u>Compliance Method: water spray system</u>
<u>Additional Measures: minimize drop height, outdoor storage limitations</u>

Affected Materials are not stored outdoors. The Facility limits the type of bulk non-Affected Materials that can be stored in outdoor storage piles to the following:

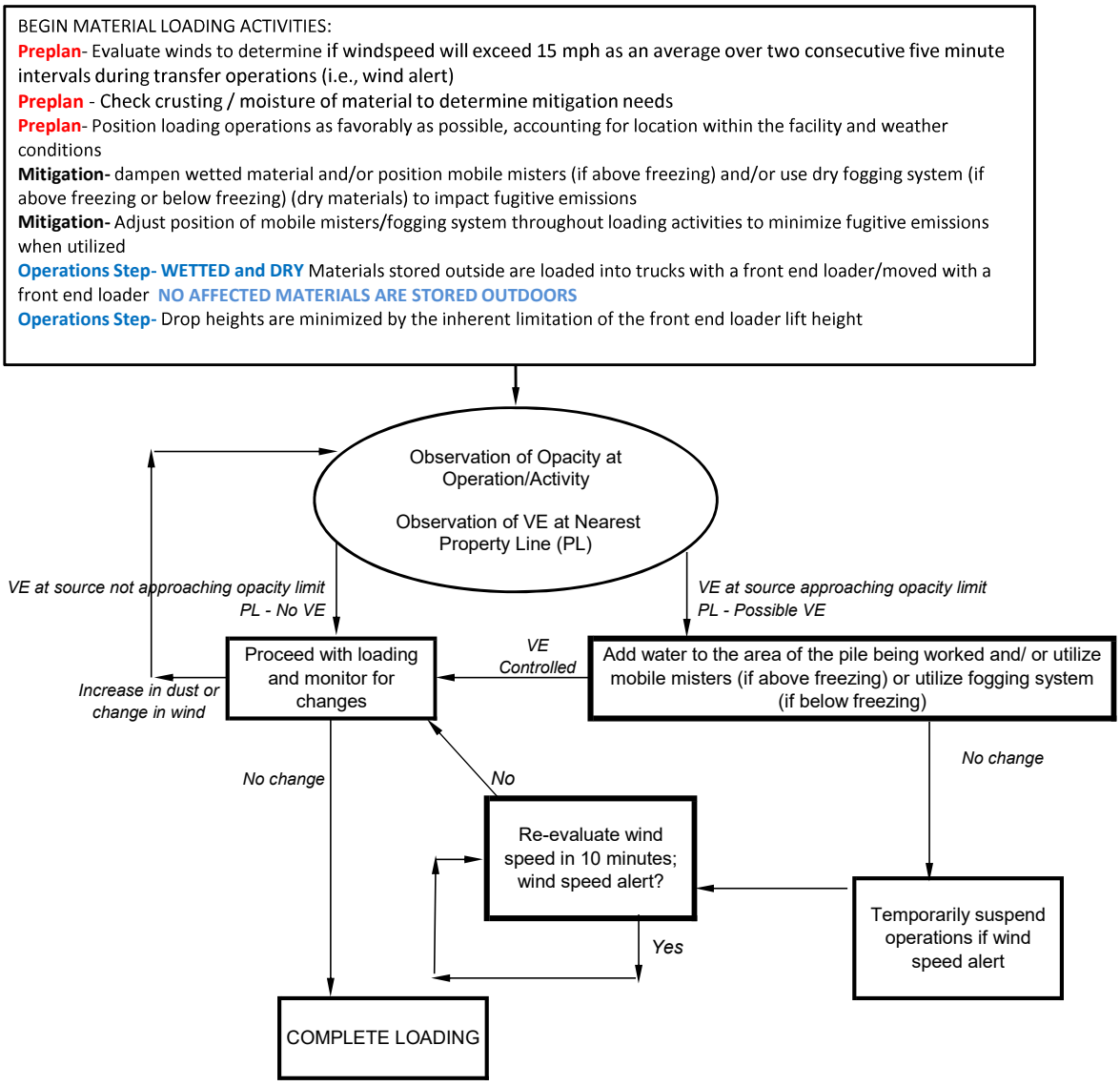
- Wetted Materials that have a predominantly large particle size (greater than ½ inch);
- Dry Materials that have a predominantly large particle size (greater than ½ inch), but only if tarped during storage; and
- Wetted Materials that have a small particle size less than ½ inch in diameter, but only if a very hard cohesive crust forms over the surface of the pile when watered.

The bulk materials that are stored outdoors are not dusty and are not susceptible to being windblown or are tarped.

S.H. Bell Co. in Chicago has restricted the types of materials handled or stored at the facility. As previously committed, inbound shipments of DRI fines are no longer accepted for storage or re-loading at the facility.

The following decision tree diagram (Figure 3) is the operating procedure for **Transfer Activities of Bulk Materials at Outdoor Storage Piles**.

FIGURE 3. LOADING FROM OUTDOOR STORAGE PILES / OUTDOOR TRUCK LOADING - FUGITIVE DUST CONTROL



2. TEMPORARY OUTDOOR PILE TRANSFER ACTIVITIES

Compliance Method: water spray system
Additional Measures: minimize drop height

As discussed in the additional transfer point sections below, certain operations require temporary outdoor piles. With the exception of Affected Materials, the above operating procedures (Figure 3) for transfer activities of bulk materials at outdoor storage piles is followed for transfer activities involving temporary outdoor piles.

The facility employs more stringent controls for Affected Materials. Temporary outdoor piles of Affected Materials at the facility are not permitted except for barge loading and truck unloading. Barge loading is an infrequent activity and the more stringent controls for the temporary Affected Materials are detailed below in Section IV.A.6., Barge Loading. Truck unloading of Affected Materials originating from off-site full-size trucks are detailed below in Section IV.A.5, Truck Loading/Unloading.

3. CRUSHING/SCREENING

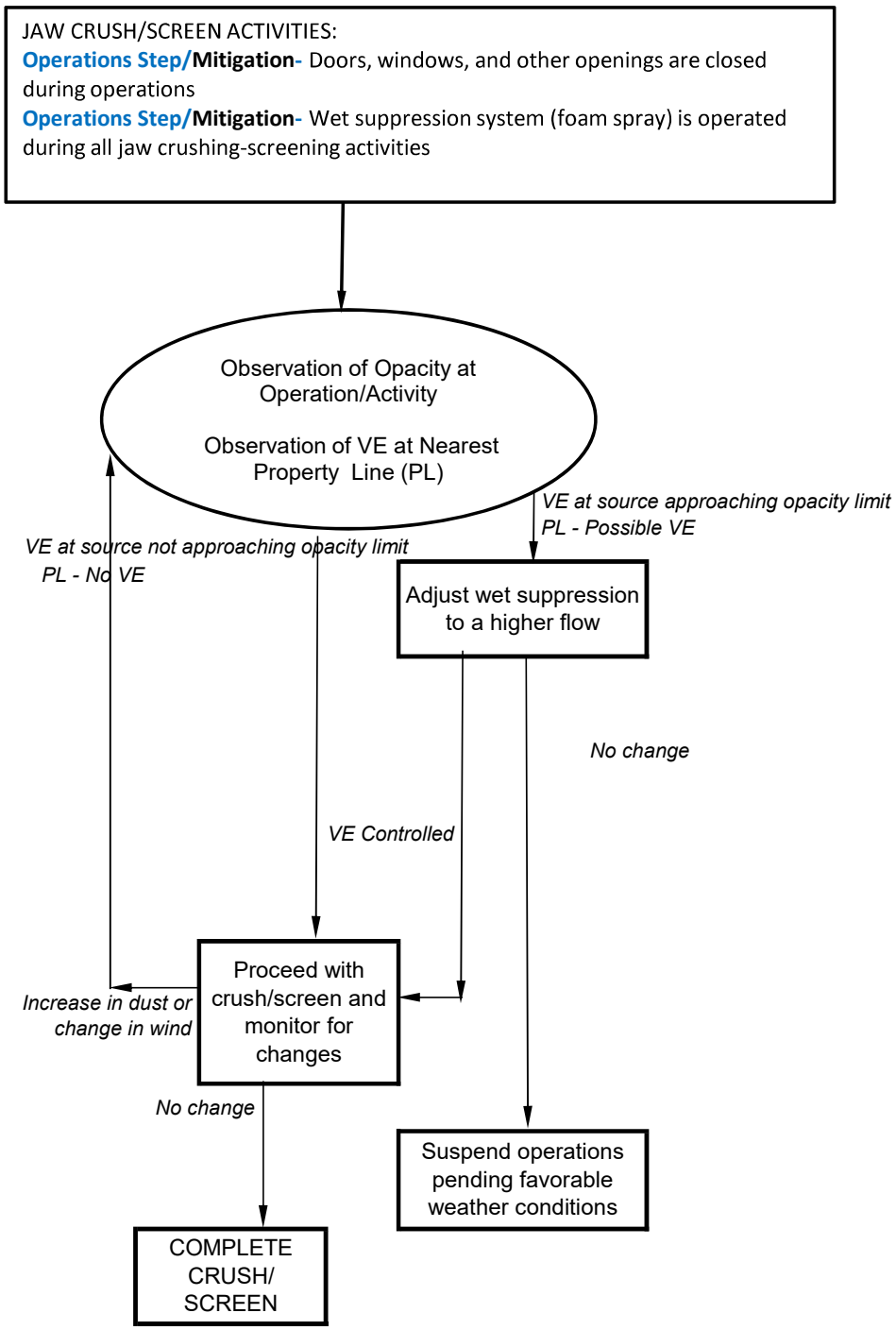
Compliance Method: enclosure
Additional Measures: foam dust suppressant spray system, minimize drop height

There is a crusher/screener and a screener at the facility, both of which are enclosed within a building. Table 1 provides list the enclosed transfer points associated with the crusher/screener and a screener at the facility. On Figure 1, the crusher/screener building is labeled "Processing Area."

Additionally, a foam dust suppressant spray system is operated at the initial drop to the crusher and at the crusher during all jaw crushing/screening operations to reduce fugitive dust emissions from the processed materials. Drop height to the opening of the crusher is minimized by a chute that extends from the bottom of the hopper to the opening of the crusher. There is also a full-length dust curtain at the face of the enclosure to the hopper. Facility personnel are trained to keep doors, windows, and other openings closed during jaw crushing/screening operations.

The following decision tree diagram (Figure 4) is the operating procedure for the **Crusher/Screener** at the facility.

FIGURE 4. CRUSHING/SCREENING - FUGITIVE DUST CONTROL



4. BOX SCREENING

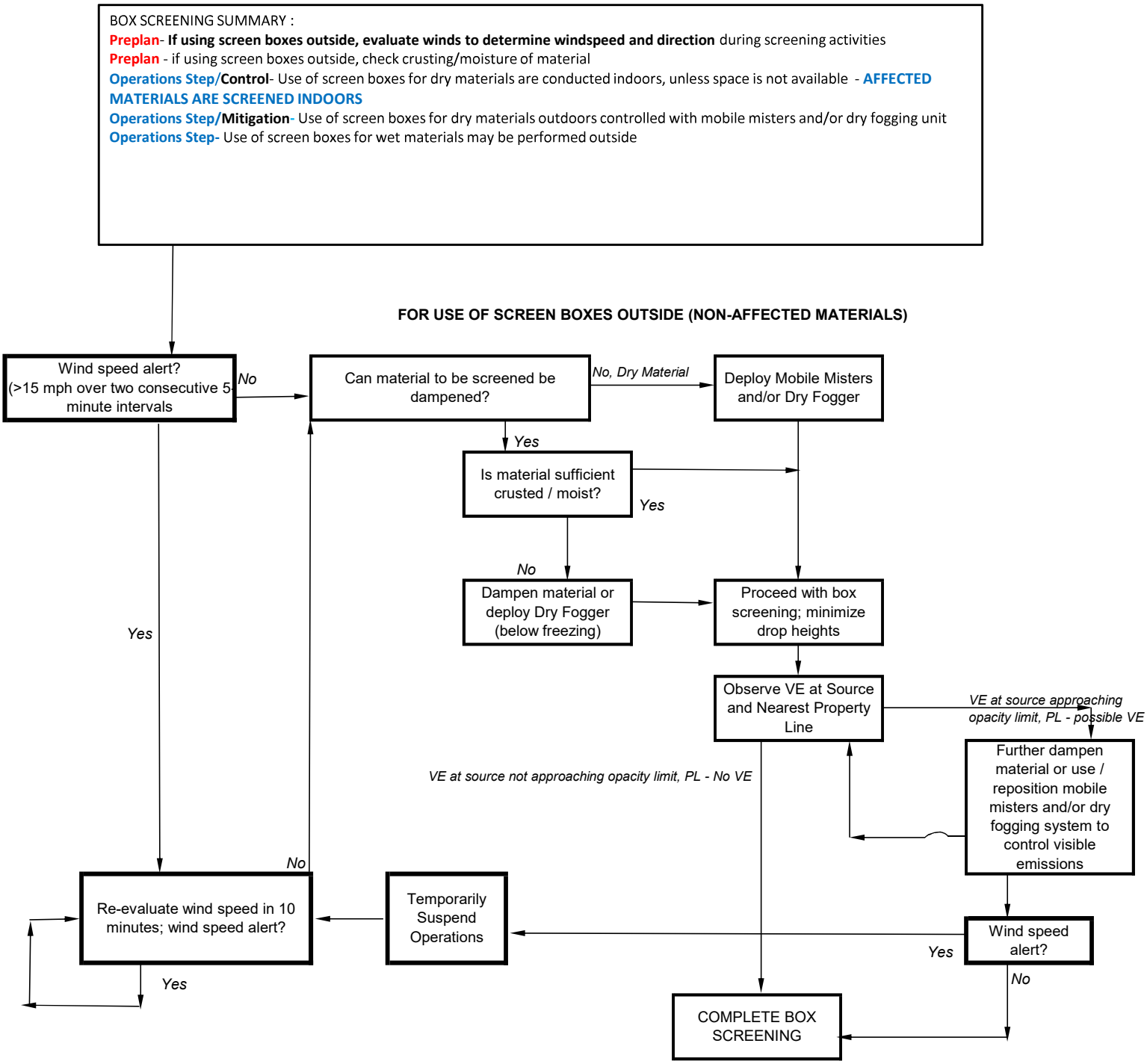
Compliance Methods: enclosure, water spray system
Additional Measures: minimize drop height limitation on outdoor activities

Four (4) portable box screeners are used at the facility. Dry Materials are screened inside a facility building unless space is not available. If screening of Dry Materials is performed outdoors, the mobile misters or dry fogging unit will be deployed which will create a curtain or cloud that encapsulates fugitive particulate matter and causes the fugitive particulate matter to settle out of the air. Wetted Materials may be screened outdoors. Wetted Materials are directly sprayed with water or dampened prior to start of screening if moisture is not sufficient.

No box screening of Affected Materials is performed outdoors.

The following decision tree diagram (Figure 5) is the operating procedure for **Box Screeners**.

FIGURE 5. BOX SCREENING - FUGITIVE DUST CONTROL



5. TRUCK LOADING/UNLOADING

Compliance Methods: enclosure, water spray system, air pollution control equipment
Additional Measures: minimize drop height, choke feed, limitations on outdoor loading

Indoor Truck Loading – Dry Materials

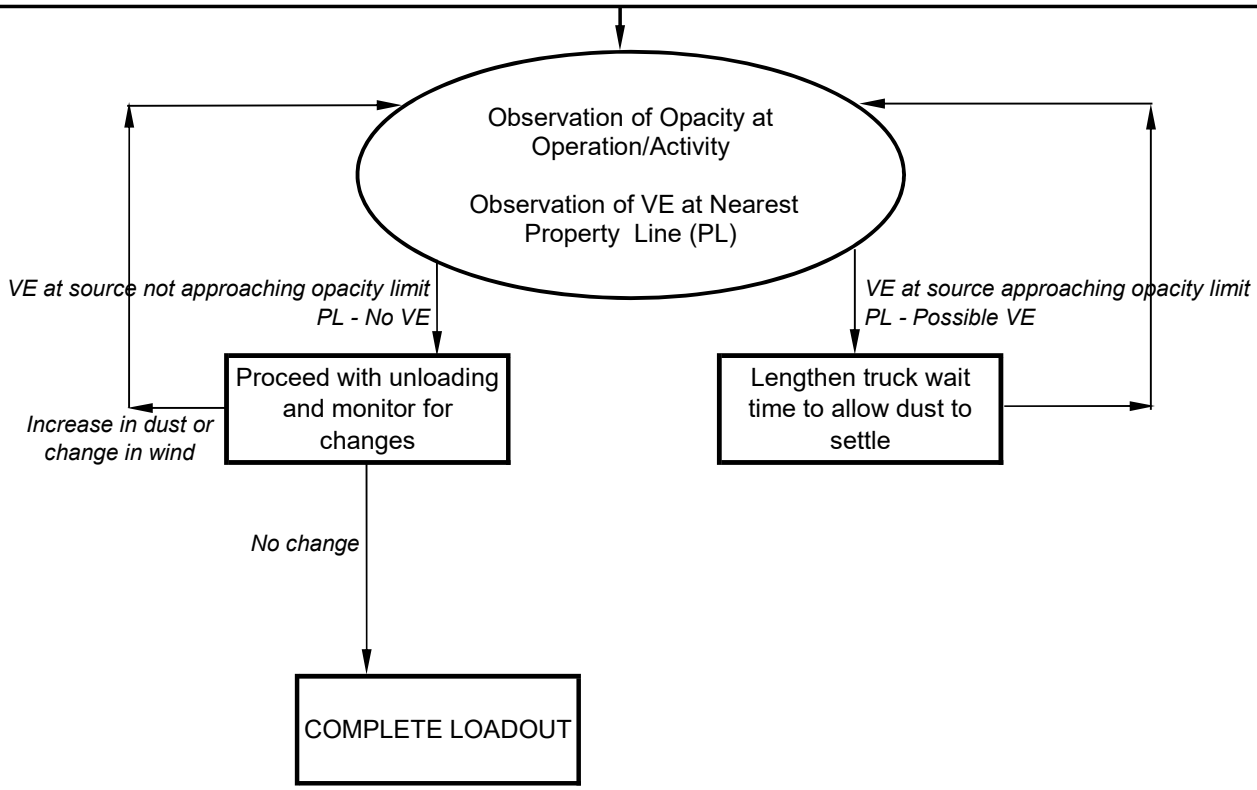
Loading operations of Dry Materials (including Affected Materials) involving trucks are completed within an enclosure, either within a loadout shed or within a bulk material storage building. There are two loadout sheds, one at the Norcon building and one at the Ryerson building, the locations of which are shown on Figure 1. These loadout sheds have been renovated, including the construction of upgraded enclosures, installation of metal roll-up garage doors at the entry/exit of each loadout shed, and installation of a 40,000 cfm stationary dust collector at each loadout shed. Loading will not commence until both doors are closed; the dust collector fans will be interlocked to actuate upon closure of both doors. Additional work practice procedures include a minimum one-minute wait time for trucks after loading before the doors are opened to allow fugitive dust to settle and/or be captured.

The following decision tree diagram (Figure 6) is the operating procedure for **Indoor Truck Loadout** at the Ryerson and Norcon Buildings.

FIGURE 6. INDOOR TRUCK LOADOUT - FUGITIVE DUST CONTROL

Ryerson and Norcon Buildings

BEGIN TRUCK LOADOUT ACTIVITIES:
Operations Step- Position truck completely within loadout shed
Operations Step - Close entry/exit roll-up garage doors at each end of the loadout shed
Control- Ensure stationary dust collector is turned on and operational; dust collector fans are interlocked to actuate upon closure of both doors
Operations Step- Load material into the truck while minimizing drop height
Operations Step- Ensure that truck driver waits for at least one minute after load is complete to allow for dust settling/capture before driving out of the loadout enclosure
Operations Step- Ensure driver tarps the load after safely clearing the exit of the loadout shed prior to driving through the facility



Outbound Truck Loading from Outdoor Storage Piles –

As noted previously, no Affected Materials are stored outside and the facility limits the Non-Affected Materials that can be stored in the Outdoor Storage Piles to the following:

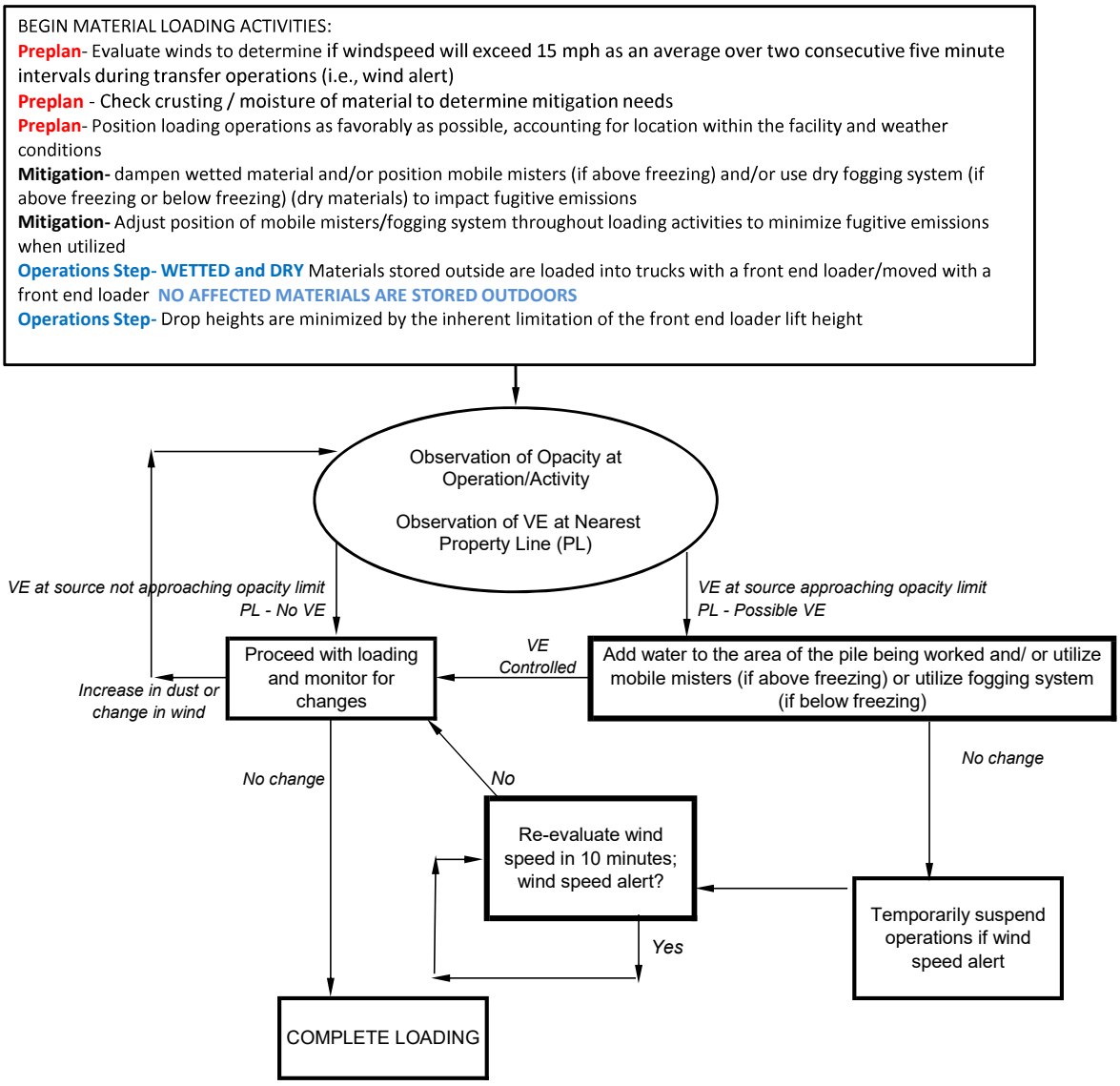
- Wetted Materials that have a predominantly large particle size (greater than ½ inch);
- Dry Materials that have a predominantly large particle size (greater than ½ inch), but only if tarped during storage; and
- Wetted Materials that have a small particle size less than ½ inch in diameter, but only if a very hard cohesive crust forms over the surface of the pile when watered.

The bulk materials that are stored outdoors are not dusty and are not susceptible to being windblown or are tarped.

Materials stored outdoors are loaded into trucks with a front end loader. Proper loading methods include minimizing material drop heights by placing the hinge pin of the front end loader as near as possible to the top of the side of the truck bed which results in the bottom portion of the bucket being contained inside the truck bed when the material in the bucket is off-loaded. Trucks are not loaded to the full depth of the truck bed to ensure material is contained. Additionally, per the operating procedure below, Wetted Materials are directly sprayed with water or dampened if moisture is not sufficient or the mobile misters or dry fogging unit are deployed prior to and/or during the truck loading.

Figure 3 is the operating procedure for transfer activities of bulk materials at outdoor piles, which is representative of **Outbound Truck Loading** from Outdoor Storage Piles.

FIGURE 3. LOADING FROM OUTDOOR STORAGE PILES / OUTDOOR TRUCK LOADING - FUGITIVE DUST CONTROL



Truck Unloading

For truck unloading, Dry Materials (including Affected Materials) carried by in-house drayage trucks are unloaded within a bulk material storage building. Dry Affected Materials may be unloaded outside using a mobile mister or dry fogger for mitigation and then covering the pile with a tarp on a temporary basis.

Materials that have a predominantly large particle size (greater than ½ inch) and/or can be watered (Wetted Materials) carried by in-house drayage trucks or that are being delivered from off-site full size trucks that are to be stored outside are unloaded directly to outdoor storage piles.

Full size trucks from off-site that are delivering non-Affected Materials are unloaded to ground in a manner which minimizes drop heights. Based on the nature of the truck unloading process, the material is being choke fed to the ground, and the driver usually has to pull forward to ensure that all material is discharged from the truck. Wetted Material will be dampened in the truck prior to unloading if moisture is not sufficient and a mobile mister or dry fogging unit will be deployed while unloading of Dry Materials.

The facility employs more stringent controls for Affected Materials. Full size trucks from off-site, that are delivering Affected Materials, are choke fed to three-sided steel receiving pans, while deploying a mobile mister or dry fogger. Based on the nature of the truck unloading process, the material is being choke fed to the receiving pan, and the driver usually has to pull forward to ensure that all material is discharged from the truck. Unloading of Affected Materials to receiving pans is automatically suspended during high wind events.

The following decision tree diagrams (Figures 7a and 7b) represent the operating procedures for **Truck Unloading from Off-Site Full Size Trucks** for non-Affected Materials and Affected Materials, respectively.

FIGURE 7a. BULK FULL-SIZE TRUCK UNLOADING (NON-AFFECTED MATERIALS) - FUGITIVE DUST CONTROL

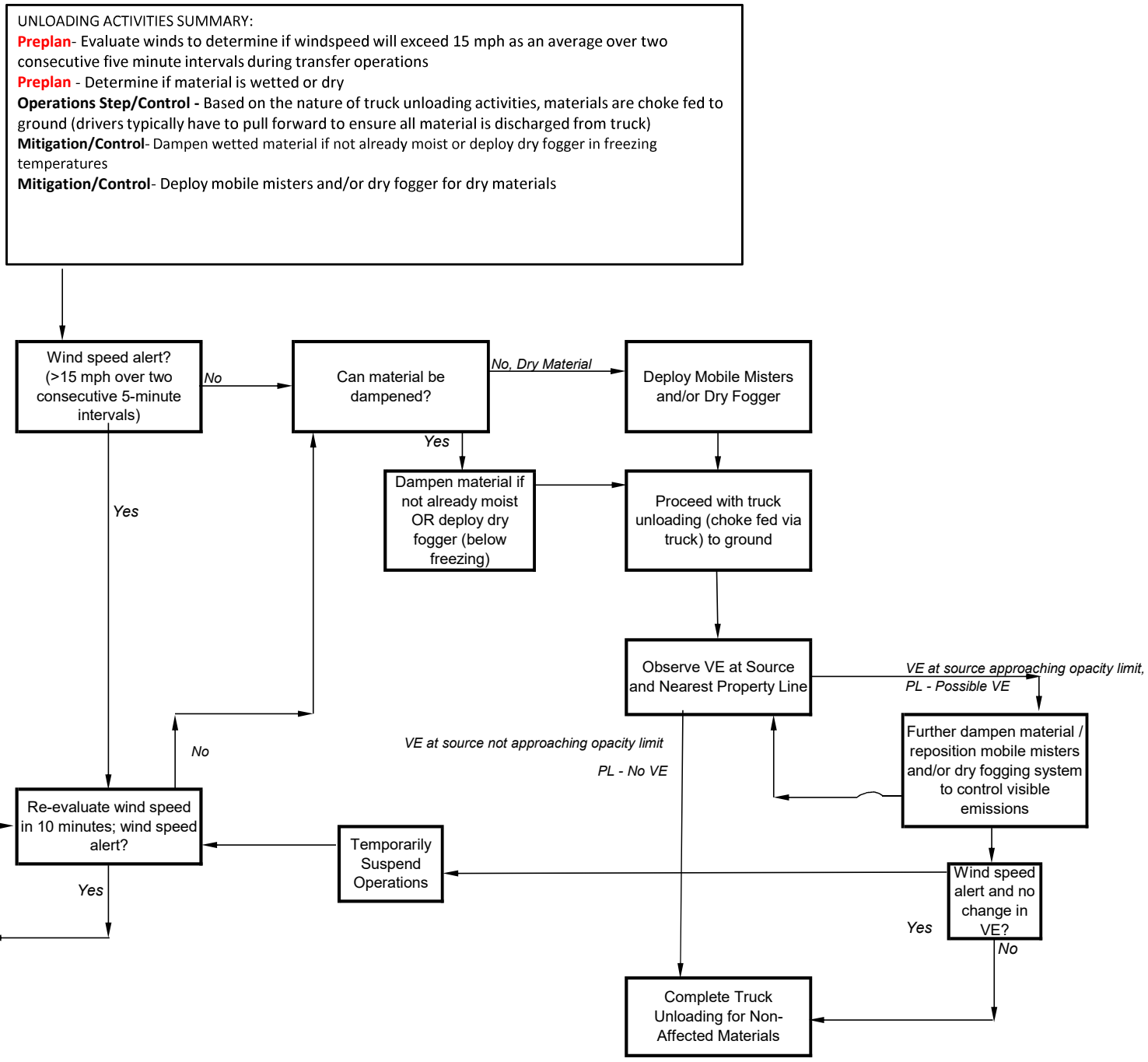
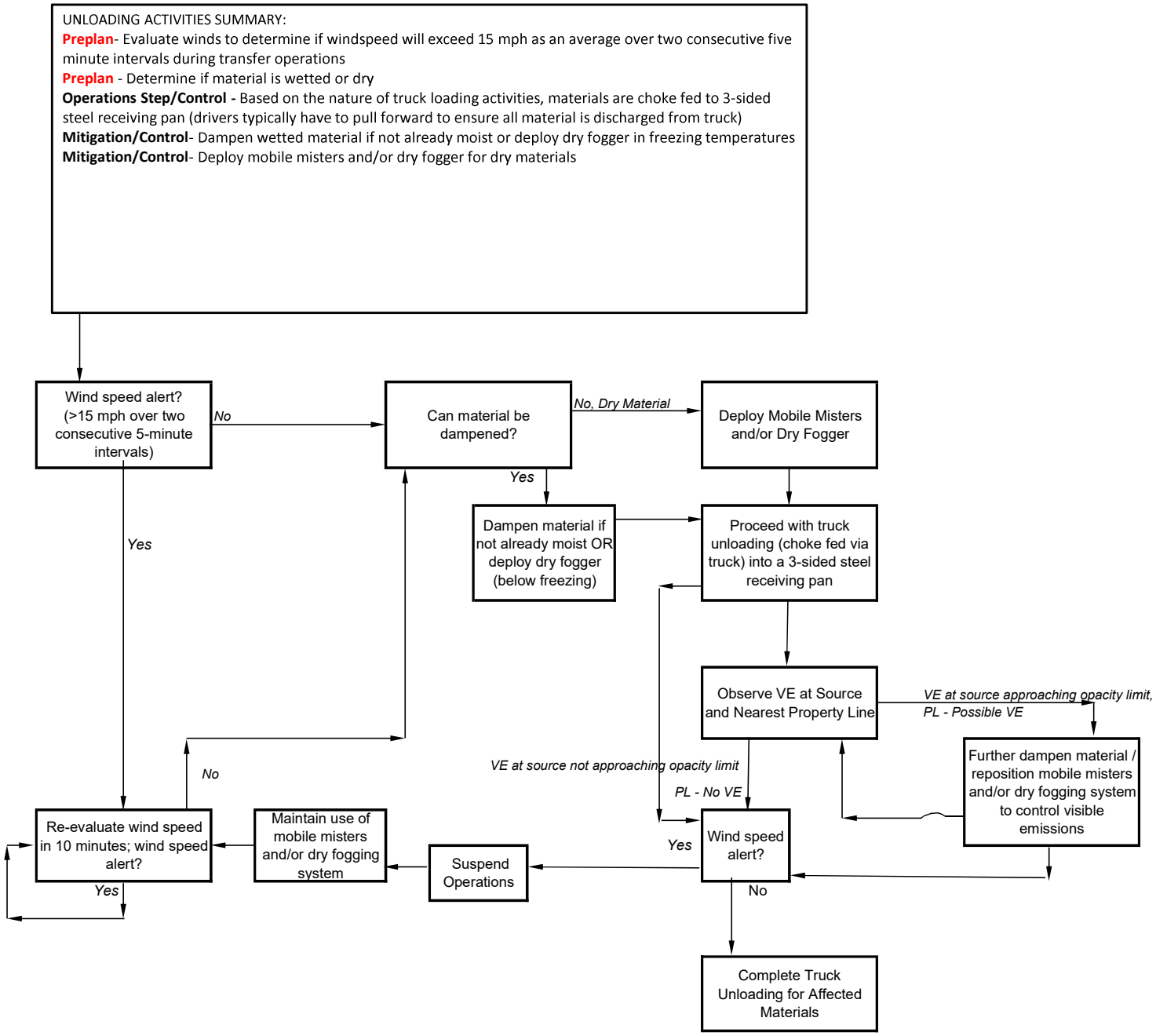


FIGURE 7b. BULK FULL-SIZE TRUCK UNLOADING (AFFECTED MATERIALS) - FUGITIVE DUST CONTROL



6. BARGE UNLOADING/LOADING

Compliance Methods: water spray system
Additional Measures: enclosure, air pollution control equipment, minimize drop height, more stringent controls for Affected Materials

Barge Unloading – Bulk Materials (non-Affected Materials)

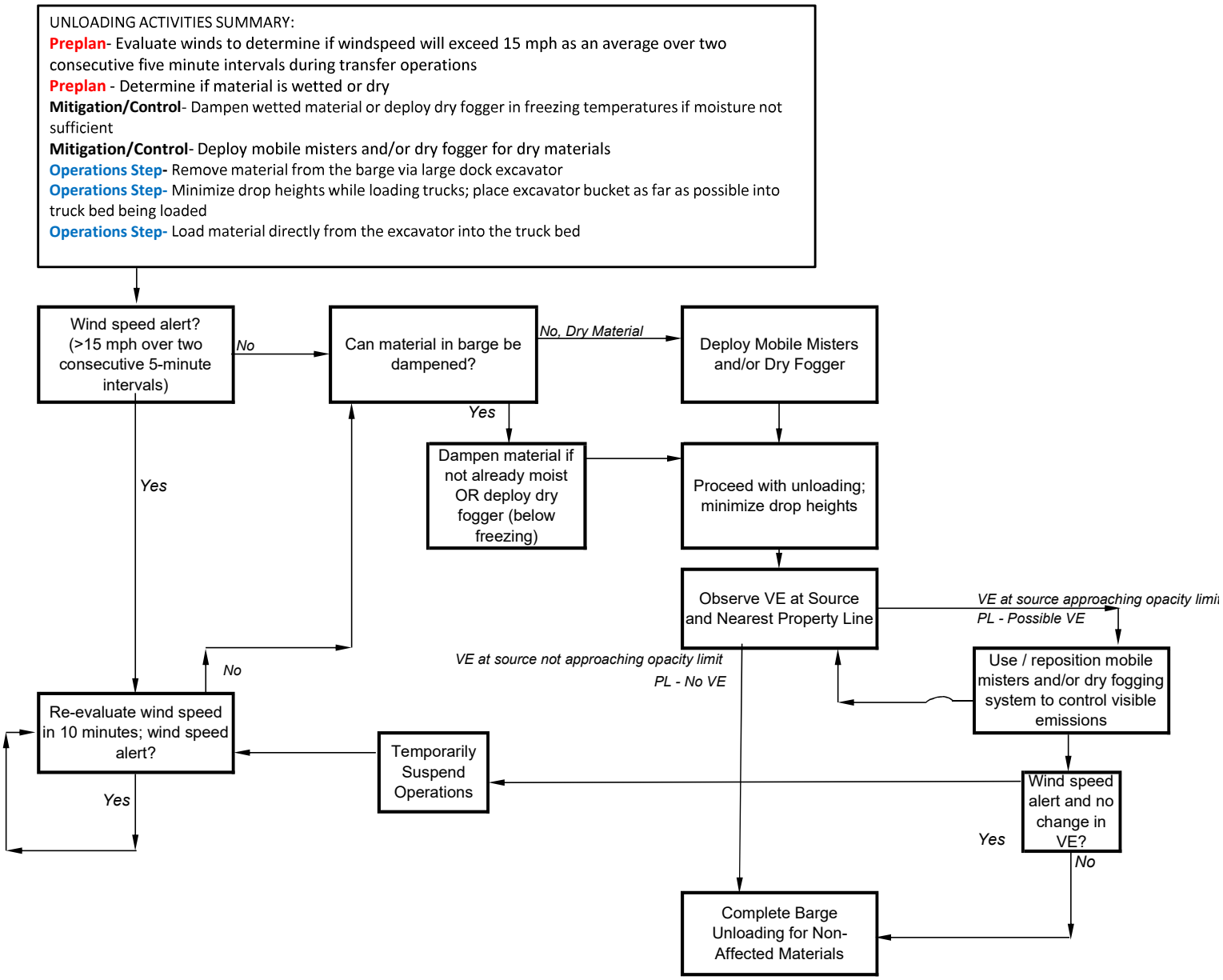
Barge unloading operations of non-Affected Materials that are Dry Materials are completed so as to minimize drop height to reduce fugitive dust emissions. If excess wind speed is observed, the facility manager will consult the on-site met station to determine wind speeds at the facility and determine if loading/unloading operations should be temporarily suspended. Due to the range of movement of the equipment required for barge unloading (there is not a fixed swing location for the excavator from the barge to a waiting truck), as well as the size of the barges (200 feet in length), and the need to reposition the barge during unloading activities, enclosure of barge unloading activities is not feasible.

The non-Affected Materials are unloaded directly to truck beds with a large dock excavator, adhering to barge unloading procedures as illustrated in Figure 8a below that are designed to reduce fugitive particulate emissions. Key mitigation actions include placing the excavator bucket as far as possible into the truck bed being loaded, in turn minimizing drop height of the bucket to truck transfer. Additionally, when unloading Dry Materials from a barge, the mobile misters or dry fogging unit will be deployed during unloading activities, which will create a curtain or cloud that encapsulates fugitive particulate matter and causes the fugitive particulate matter to settle out of the air.

Wetted Materials are directly sprayed with water or dampened prior to start of unloading the barge if moisture is not sufficient. In freezing temperatures, in the rare event that moisture is not sufficient, the dry fogging system will be deployed and appropriately positioned as a dust mitigation measure while unloading, which will cause a curtain or cloud that encapsulates fugitive particulate matter and causes the fugitive particulate matter to settle out of the air.

The following diagram (Figure 8a) is the operating procedure for **Barge Unloading - Bulk Materials (non-Affected Materials).**

FIGURE 8a. BULK BARGE UNLOADING (NON-AFFECTED MATERIALS) - FUGITIVE DUST CONTROL



Barge Unloading – Bulk Materials (Affected Materials)

The facility employs more stringent controls for barge unloading operations of Affected Materials. All barges of Affected Materials arriving at the facility are covered with stackable fiberglass lids, stackable metal lids, or sliding metal lids. The lids cannot be removed and barge unloading of Affected Materials cannot start during High Wind Conditions (as defined by the Regulation); the lids can only be removed and barge unloading can only start when High Wind Conditions are not occurring. If the material in the barge is wetted, then all the lids may be removed from the barge. Additionally, the facility will suspend unloading of Affected Materials from the barge when High Wind Conditions occur and will only be able to resume when High Wind Conditions are not occurring.

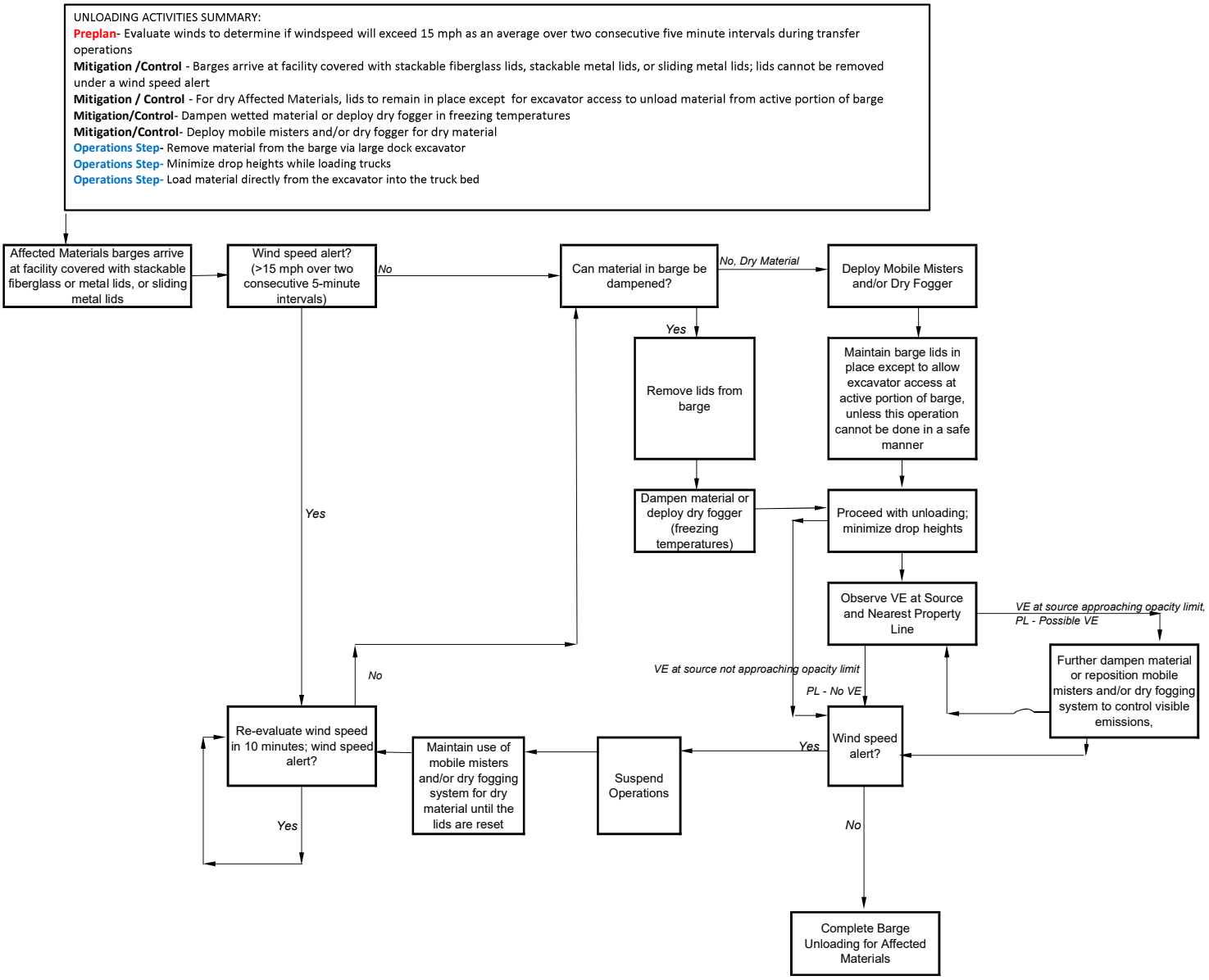
If allowed by the customer, Affected Materials will be wetted once the lids are removed and prior to the start of unloading the barge. The facility will ensure that the wetted Affected Materials have sufficient moisture to prevent fugitive dust when barge unloading operations are suspended during High Wind Conditions. In freezing temperatures, in the rare event that moisture is not sufficient, the dry fogging system will be deployed and appropriately positioned as a dust mitigation measure, which will cause a curtain or cloud that encapsulates fugitive particulate matter and causes the fugitive particulate matter to settle out of the air.

If the customer requires that the Affected Materials remain dry, the lids on the barges will remain in place except when the lids are removed to allow excavators to unload the material from that portion of the barge unless this operation cannot be done in a safe manner. Additionally, the mobile misters or the dry fogging unit will be deployed during any unloading of dry Affected Materials and also when barge unloading operations are suspended during High Wind Conditions until the lids are placed back on the barge. The mobile misters/dry fogging unit will be positioned based on the wind direction to create a curtain or cloud that encapsulates fugitive particulate matter and causes the fugitive particulate matter to settle out of the air.

All Affected Materials are unloaded directly to truck beds with a large dock excavator, adhering to barge unloading procedures as illustrated in Figure 8b below designed to reduce fugitive particulate emissions. Key mitigation actions include placing the excavator bucket as far as possible into the truck bed being loaded, in turn minimizing drop height of the bucket to truck transfer.

The following diagram (Figure 8b) is the operating procedure for **Barge Unloading – Bulk Materials (Affected Materials)**.

FIGURE 8b. BULK BARGE UNLOADING (AFFECTED MATERIALS) - FUGITIVE DUST CONTROL



Barge Unloading – Super Sacks Converted to Bulk

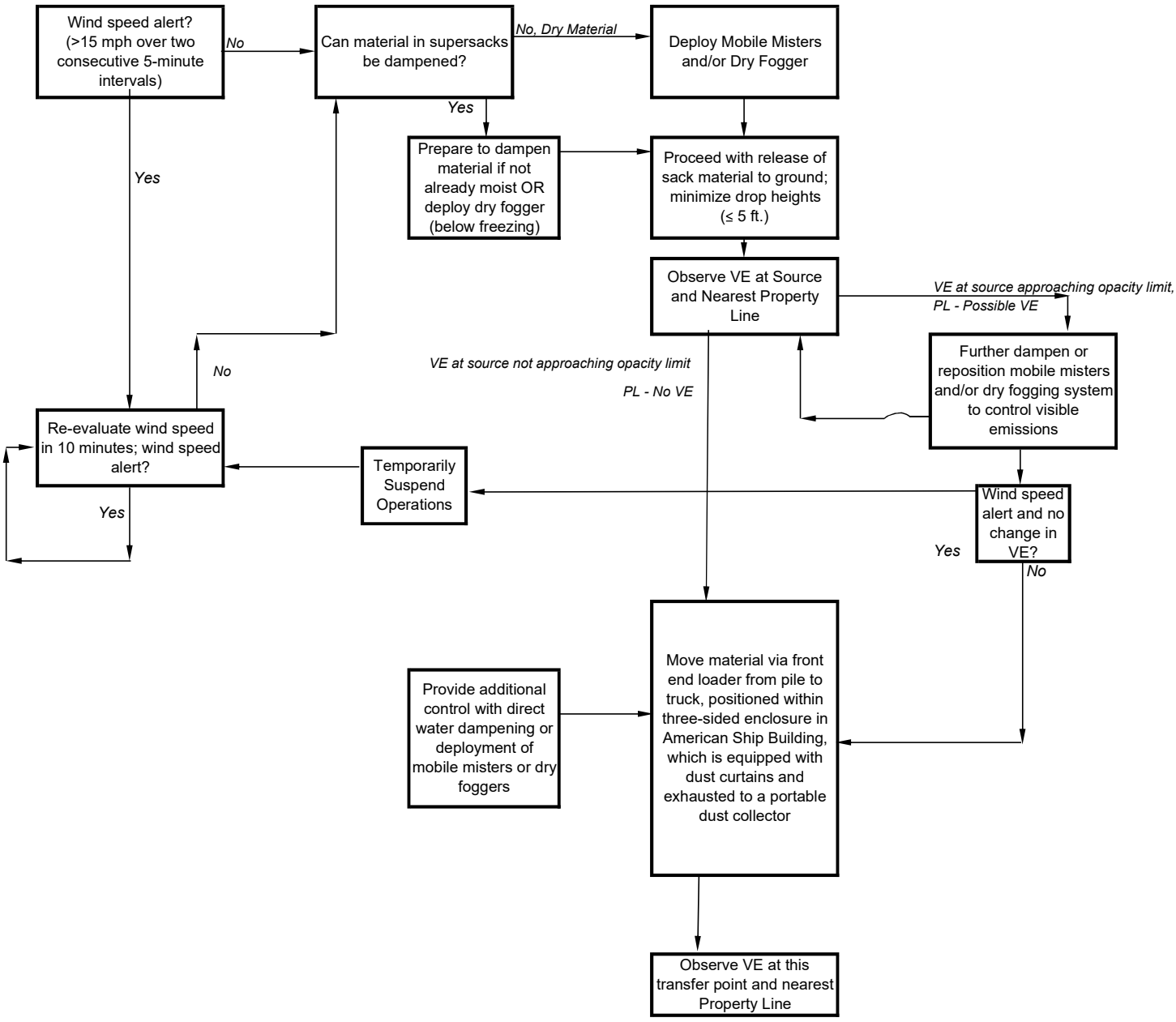
When super sacks of non-Affected Materials that are to be converted to bulk are unloaded from a barge, the sack material is first released to a pile at the dock. During the conversion to bulk, Wetted Materials are dampened if moisture is not sufficient and the mobile misters or the dry fogging system are deployed for Dry Materials according to the procedures as illustrated in Figure 8c below. The drop height of the material from the sack to the ground or pile is minimized to approximately 5 feet or less. Material is then moved from the pile to a truck. The truck is positioned in a three-sided enclosure located at the northeast corner of the American Ship Building, which is equipped with dust curtains and exhausted to a portable dust collector. During truck loading, front end loader drop heights are minimized by placing the hinge pin of the bucket as near as possible to the top of the side of the truck which results in the bottom portion of the bucket being contained inside the truck bed when the material in the bucket is off-loaded. Trucks are not loaded to the full depth of the truck bed to ensure material is contained. Additional control is provided by mobile misters or water dampening according to the procedures as illustrated in Figure 8c below.

All super sacks of Affected Materials arriving by barge are not opened outdoors at the dock and are transported from the barge directly to storage inside a building.

The following diagram (Figure 8c) is the operating procedure for **Barge Unloading – Super Sacks**.

FIGURE 8c. SACK BARGE UNLOADING (NON-AFFECTED MATERIALS) - FUGITIVE DUST CONTROL

UNLOADING ACTIVITIES SUMMARY:
Preplan- Evaluate winds to determine if windspeed will exceed 15 mph as an average over two consecutive five minute intervals during transfer operations
Preplan - Determine if material is wetted or dry
Mitigation/Control- Dampen wetted material or deploy dry fogger in freezing temperatures at sack release to ground transfer point (at dock)
Mitigation/Control- Deploy mobile misters and/or dry fogger for dry materials at sack release to ground transfer point (at dock)
Operations Step- Remove supersacks from the barge via large dock excavator
Operations Step- Release sack material to ground while minimizing drop heights;
Operations Step- Load material (via front end loader) from pile to truck positioned within three-sided enclosure within American Ship Building, which is equipped with a portable dust collector
Mitigation/Control- Dampen wetted material or deploy dry fogger in freezing temperatures at front end loader to truck transfer point
Mitigation/Control- Deploy mobile misters and/or dry fogger for dry materials at front end loader to truck transfer point
Control- Ensure portable dust collector is turned on and operational

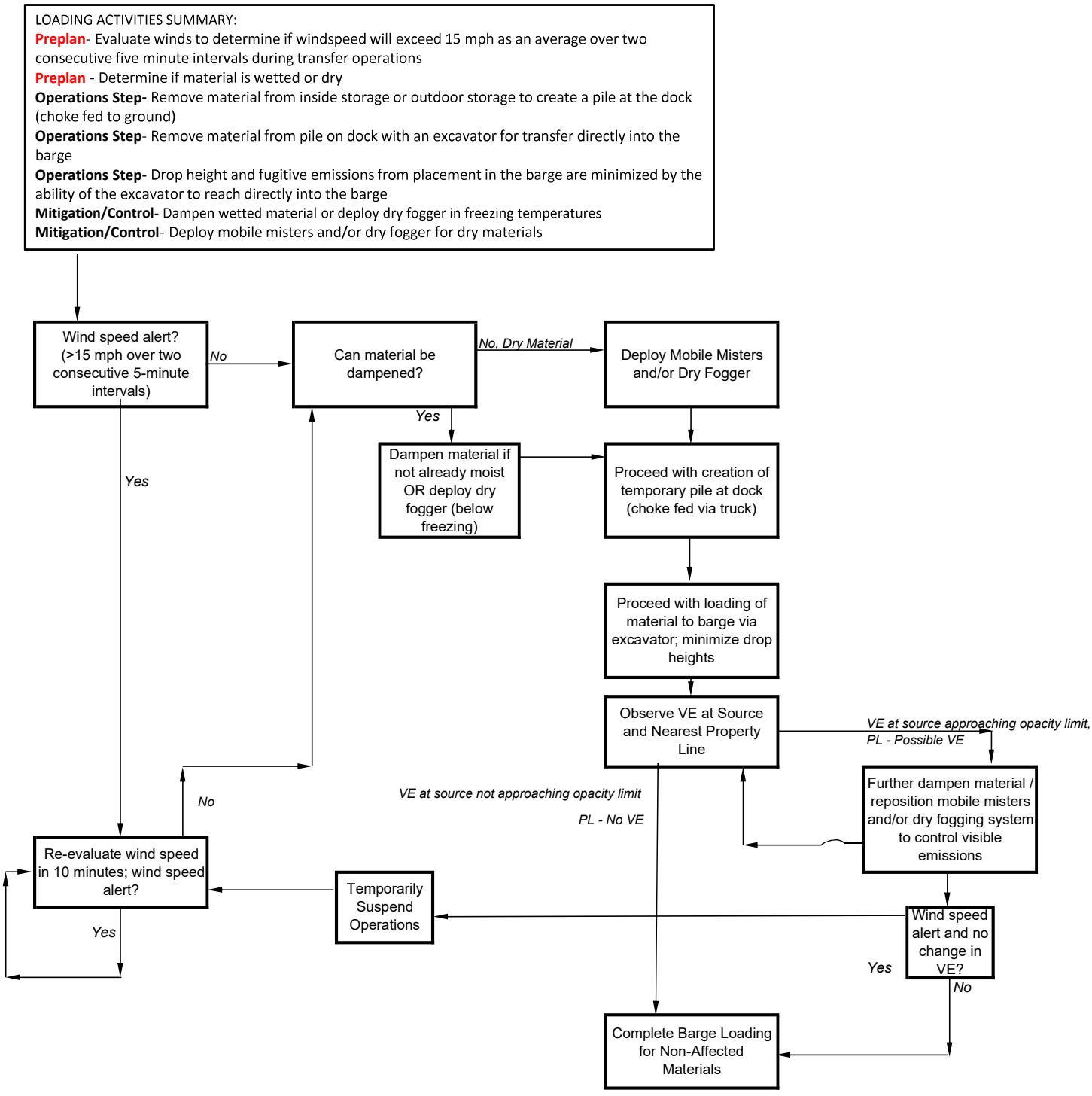


Barge Loading (Non-Affected Materials)

Barge loading is an infrequent activity. On the occasions when S.H. Bell Co. does load barges of non-Affected Materials, it uses an excavator to load the bulk material and minimize emissions. Bulk barges are loaded with material originating from either indoor or outdoor storage. The truck containing material to be loaded will drive to the appropriate location near the barge to create a temporary pile. Based on the nature of transfer of material from the truck, there is no need to minimize drop height as the material is choke fed to the ground; the driver typically has to pull forward in order to ensure that all material is discharged from the truck. From the temporary pile, a dock excavator scoops material from the dock and places it directly into the barge hold. The excavator has sufficient boom length to reach the barge bottom, minimizing drop height and any fugitive emissions. Wetted Materials are dampened if moisture is not sufficient and mobile misters or the dry fogging unit is utilized for Dry Materials according to the procedures as illustrated in Figure 8d below.

The following diagram (Figure 8d) is the operating procedure for **Barge Loading (Non-Affected Materials)**.

FIGURE 8d. BULK BARGE LOADING (NON-AFFECTED MATERIALS) - FUGITIVE DUST CONTROL



Barge Loading (Affected Materials)

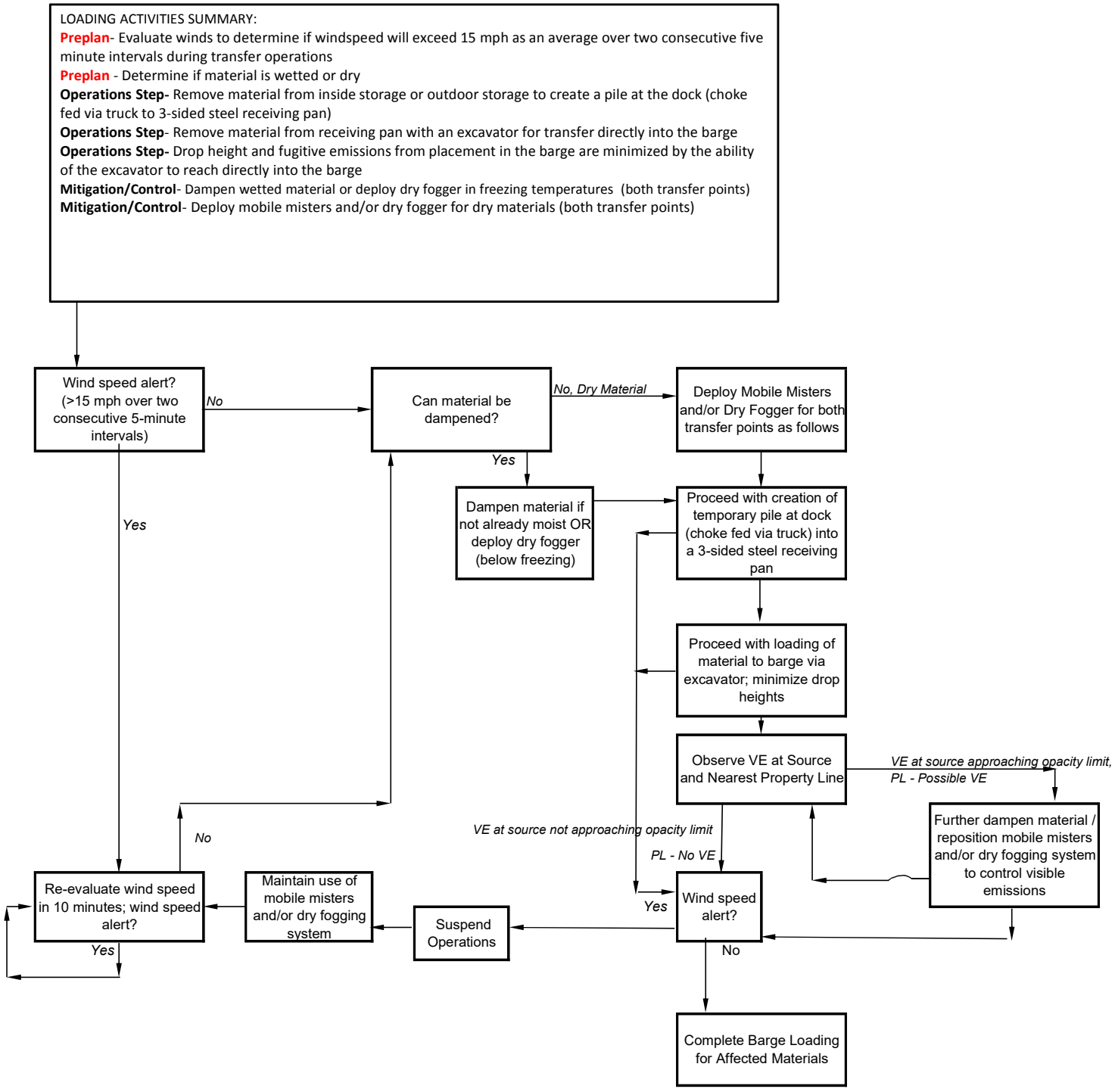
Although an infrequent activity, the facility employs more stringent controls for barge loading operations of Affected Materials. Barge loading of Affected Materials cannot start during High Wind Conditions and can only start when High Wind Conditions are not occurring. Additionally, the facility will suspend loading of Affected Materials from the barge during High Wind Conditions and will only be able to resume when High Wind Conditions are not occurring.

The truck containing Affected Material to be loaded will drive to the appropriate location near the barge. The truck will then unload the Affected Materials to a 3-sided steel receiving pan and based on the nature of transfer of material from the truck, the material is choke fed to the ground and the driver typically has to pull forward in order to ensure that all material is discharged from the truck. During the transfer of Dry Material from the truck, mobile misters or the dry fogging system will be positioned based on the wind direction to create a curtain or cloud that encapsulates fugitive particulate matter and causes the fugitive particulate matter to settle out of the air. Wetted Materials will be directly dampened if moisture content is not sufficient.

From the steel receiving pan, a dock excavator scoops material from the dock and places it directly into the barge hold. The excavator has sufficient boom length to reach the barge bottom, minimizing drop height and any fugitive emissions. During the loading of the barge, mobile misters or the dry fogging system will be positioned for Dry Materials based on the wind direction to create a curtain or cloud that encapsulates fugitive particulate matter and causes the fugitive particulate matter to settle out of the air.

The following diagram (Figure 8e) is the operating procedure for **Barge Loading (Affected Materials)**.

FIGURE 8e. BULK BARGE LOADING (AFFECTED MATERIALS) - FUGITIVE DUST CONTROL



7. RAILCAR UNLOADING/LOADING

Compliance Methods: enclosure, water spray system,
Additional Measures: air pollution control equipment, minimize drop height choke feed

Bottom Unloading Railcars

Railcars can be unloaded via bottom discharge into a below grade pit that is partially covered by the railcar and which functions like choke feeding. The pit is below ground level, accessible by a steep ramp, and walled off on the three other sides, which significantly shields the unloading operation from the wind. There is no need to minimize drop heights as material cannot be discharged from the railcar until there is space available in the covered pit (choke feeding). Material is moved from the pit to storage via front end loader. Wetted Materials are dampened if moisture is not sufficient and mobile misters or the dry fogging unit is utilized for all materials at the initial bottom discharge transfer point and Dry Materials for subsequent transfer via front end loader according to the procedures as illustrated in Figure 9a and 9b below. Unloading is suspended during High Wind Conditions for Affected Materials.

The following decision tree diagrams (Figures 9a and 9b) are the operating procedures for **Railcar Unloading - Bottom Unload** for non-Affected Materials and Affected Materials, respectively.

FIGURE 9a. BOTTOM UNLOADING RAILCARS (NON-AFFECTED MATERIALS) - FUGITIVE DUST CONTROL

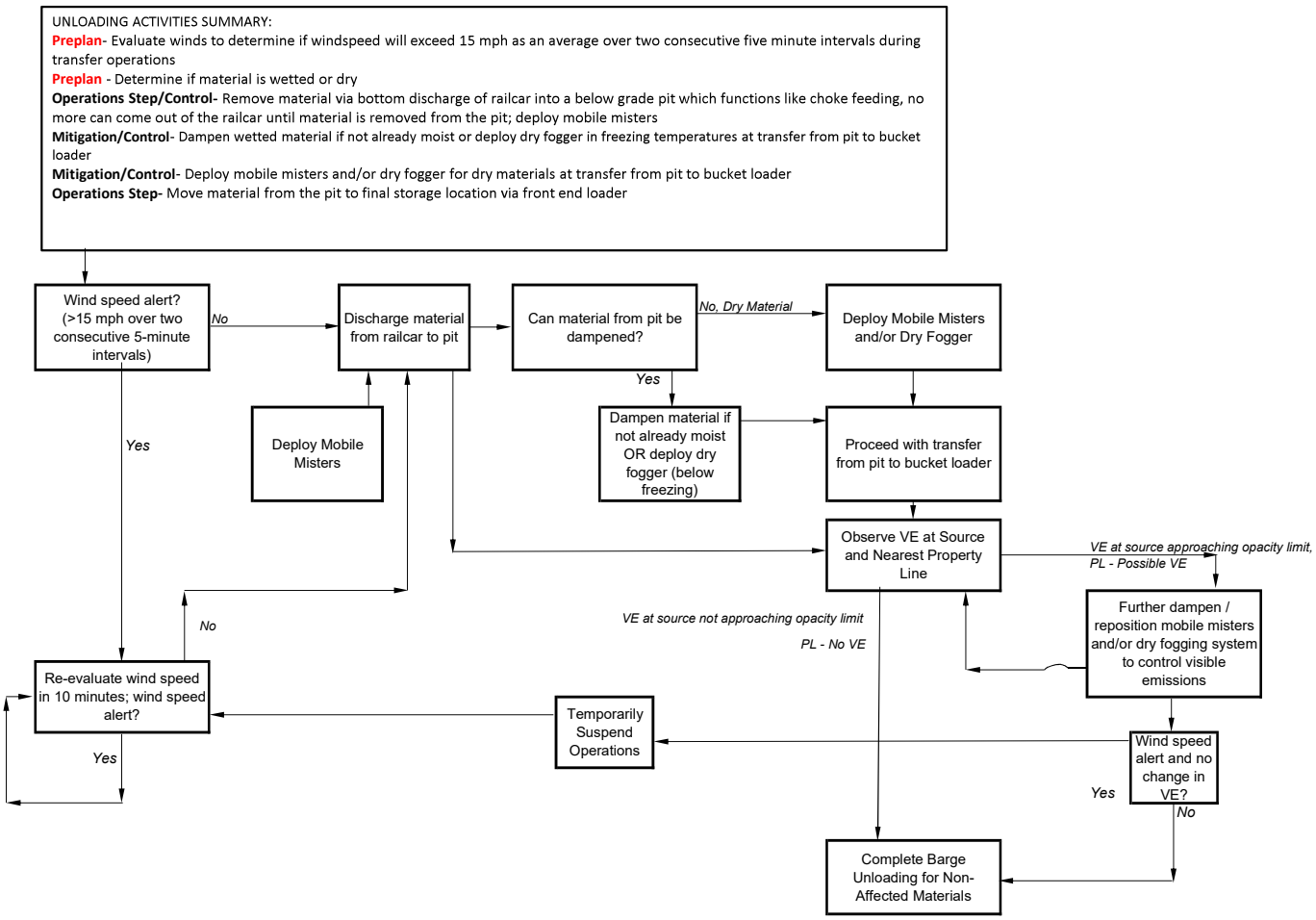
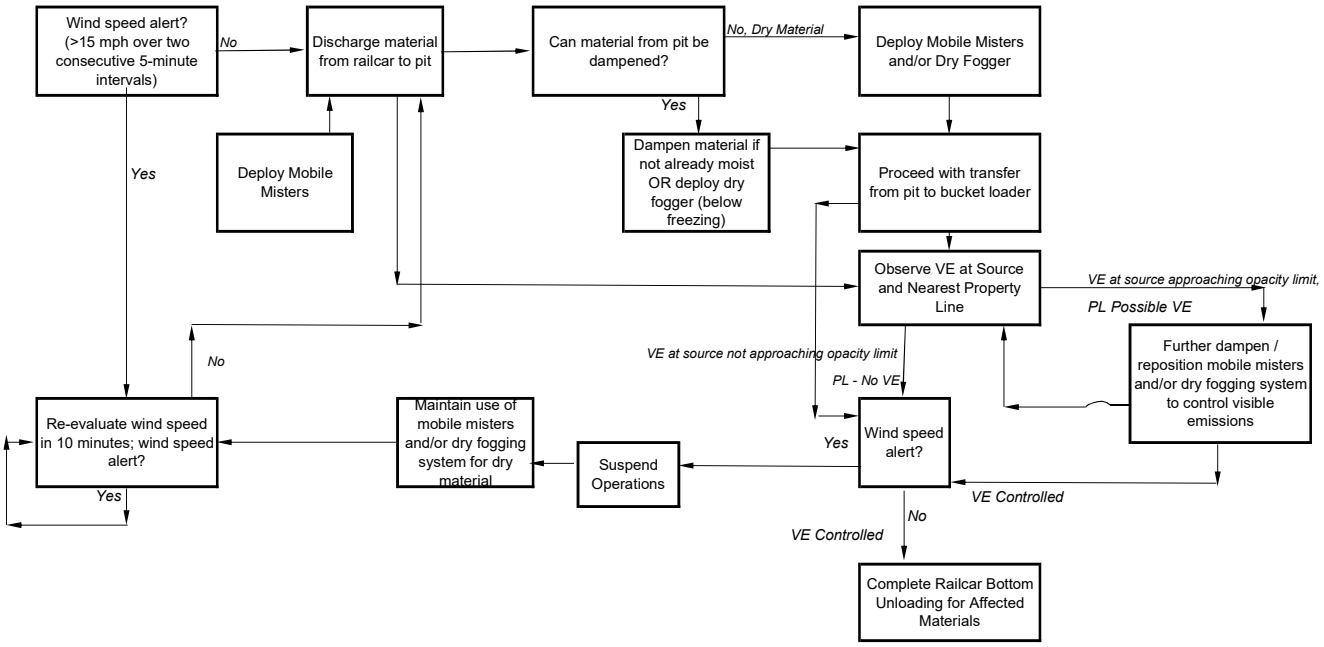


FIGURE 9b. BOTTOM UNLOADING RAILCARS (AFFECTED MATERIALS) - FUGITIVE DUST CONTROL

UNLOADING ACTIVITIES SUMMARY:
Preplan- Evaluate winds to determine if windspeed will exceed 15 mph as an average over two consecutive five minute intervals during transfer operations
Preplan - Determine if material is wetted or dry
Operations Step/Control- Remove material via bottom discharge of railcar into a below grade pit which functions like choke feeding, no more can come out of the railcar until material is removed from the pit; deploy mobile misters
Mitigation/Control- Dampen wetted material if not already moist or deploy dry fogger in freezing temperatures at transfer from pit to bucket loader
Mitigation/Control- Deploy mobile misters and/or dry fogger for dry materials at transfer from pit to bucket loader
Operations Step- Move material from the pit to final storage location via front end loader



Box Car Unloading

Box cars are unloaded using a skid steer into an unloading box enclosure. A portable dust collector is being added for use at the hopper enclosure. Unloading is suspended during High Wind Conditions for Affected Materials. Wetted Materials are dampened if moisture is not sufficient and mobile misters or the dry fogging unit is utilized for Dry Materials according to the procedures as illustrated in Figures 9c and 9d below.

The following decision tree diagrams (Figures 9c and 9d) are the operating procedures for **Railcar Unloading - Box Car Unload** for non-Affected Materials and Affected Materials, respectively**.**

FIGURE 9c. RAILCAR UNLOADING - BOX CARS (NON-AFFECTED MATERIALS) - FUGITIVE DUST CONTROL

UNLOADING ACTIVITIES SUMMARY:
Preplan- Evaluate winds to determine if windspeed will exceed 15 mph as an average over two consecutive five minute intervals during transfer operations
Preplan - Determine if material is wetted or dry
Mitigation - Dampen wetted material if not already moist or deploy dry fogger in freezing temperatures
Mitigation- Position mobile misters and/or dry fogging unit to address fugitive emissions for dry material
Operations Step- Remove material via skid steer from box car
Operations Step- Load material from skid steer into unloading box enclosure and remove with front end loader
Mitigation/Control- Utilize unloading box enclosure for initial material transfer

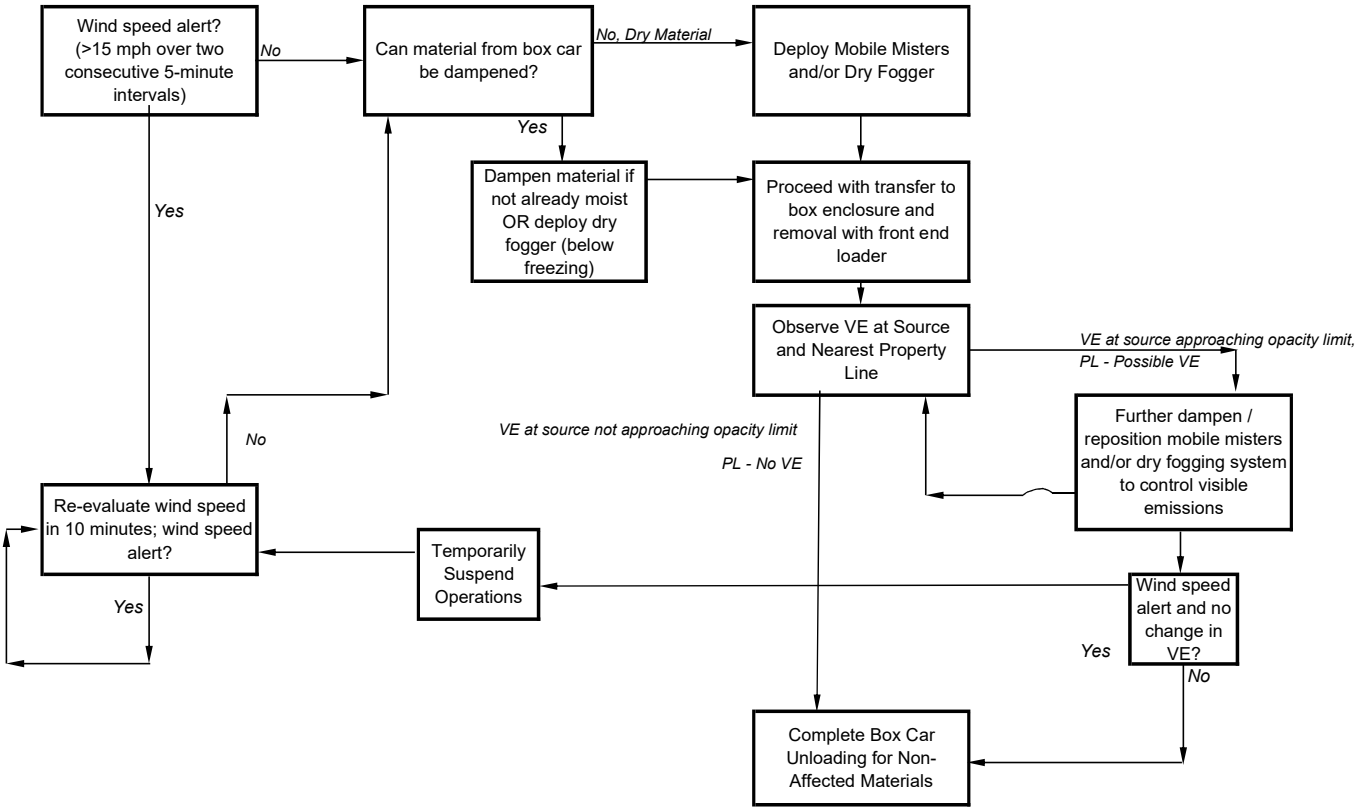
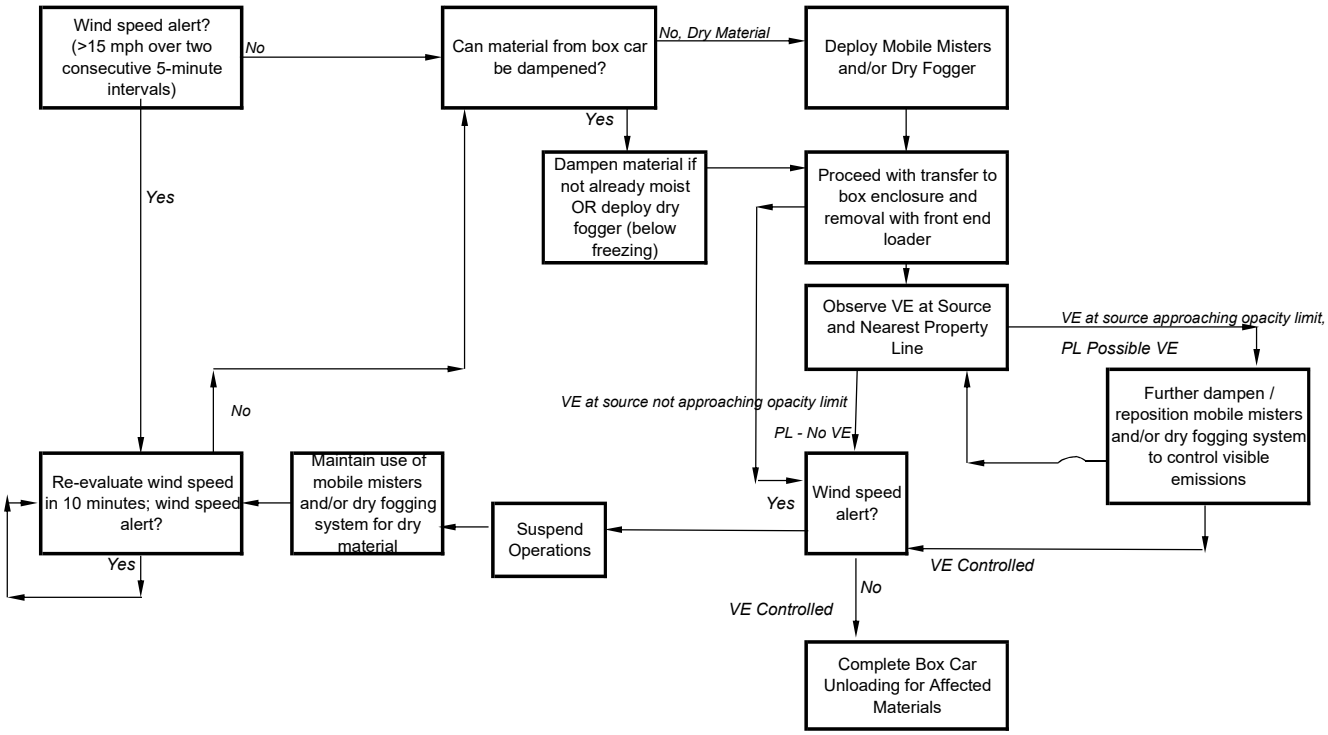


FIGURE 9d. RAILCAR UNLOADING - BOX CARS (AFFECTED MATERIALS) - FUGITIVE DUST CONTROL

UNLOADING ACTIVITIES SUMMARY:
Preplan- Evaluate winds to determine if windspeed will exceed 15 mph as an average over two consecutive five minute intervals during transfer operations
Preplan - Determine if material is wetted or dry
Mitigation - Dampen wetted material if not already moist or deploy dry fogger in freezing temperatures
Mitigation- Position mobile misters and/or dry fogging unit to address fugitive emissions for dry material
Operations Step- Remove material via skid steer from box car
Operations Step- Load material from skid steer into unloading box enclosure and remove with front end loader
Mitigation/Control- Utilize unloading box enclosure for initial material transfer



Railcar Loading – Covered Hopper Railcars

Covered hopper (CHOP) railcars are loaded with material removed from either indoor or outdoor storage. Material is choke fed from a front end loader into the rail conveyor hopper which then feeds the material onto the covered inclined belt conveyor. The conveyor, covered as required by Section 3.0(6) of the Regulation, is positioned and field adjusted to minimize the drop height from the top of the conveyor into the railcar. The conveyor height is adjustable and is set to a height just above the railcar with the spout extending into the railcar compartment. A loading spout/sock is used at the transfer point to transfer material from the conveyor to the railcar in order to prevent dust and material loss; the loading spout/sock extends approximately one foot into the railcar through the hopper opening on the top of the railcar. Wetted Materials are dampened if moisture is not sufficient and mobile misters or the dry fogging unit is utilized for Dry Materials according to the procedures as illustrated in Figures 9e and 9f below.

The following decision tree diagrams (Figures 9e and 9f) is the operating procedure for **Railcar Loading - CHOP Railcars**.

FIGURE 9e. RAILCAR LOADING - COVERED HOPPER RAILCARS (NON-AFFECTED MATERIALS) - FUGITIVE DUST CONTROL

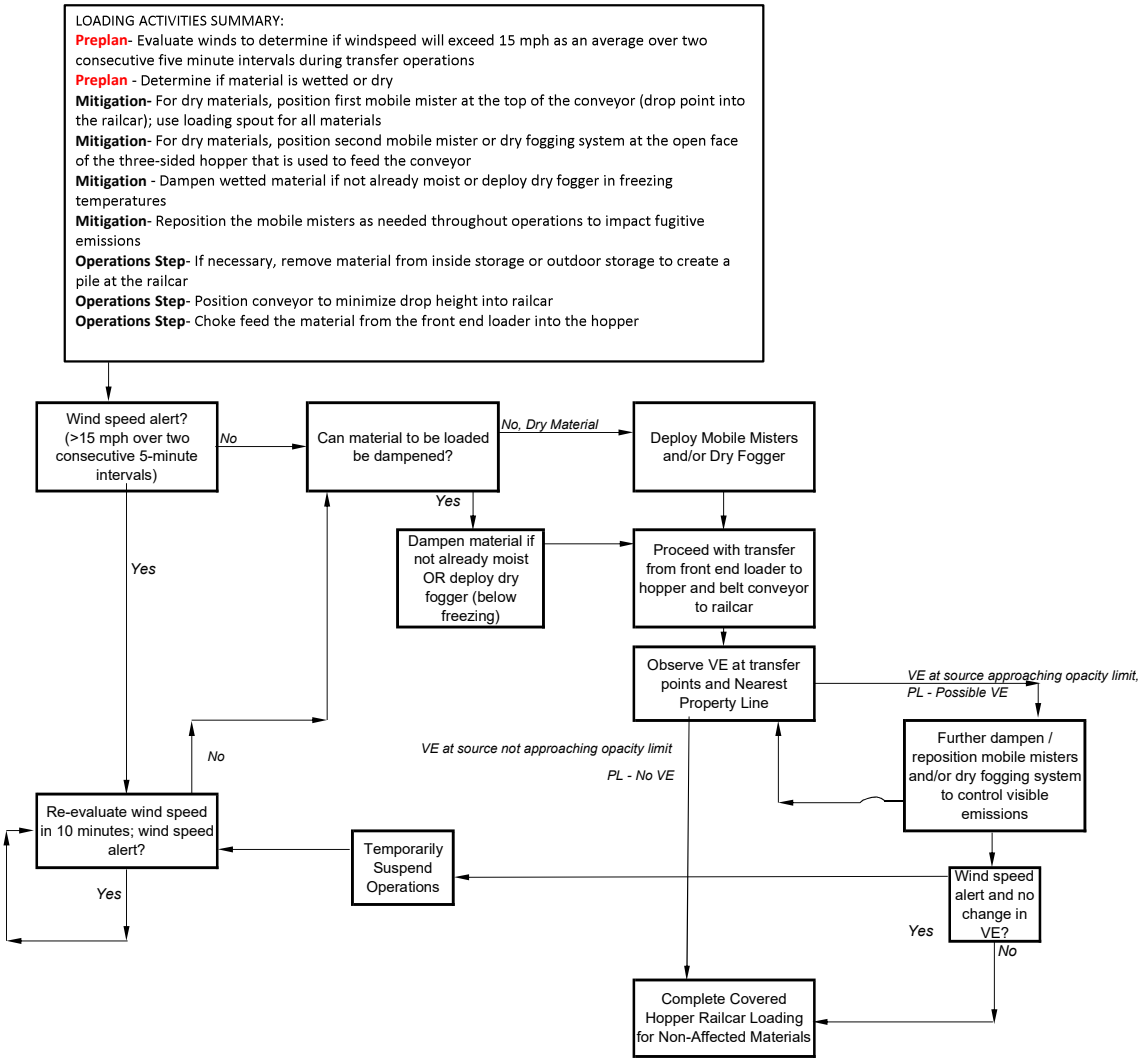
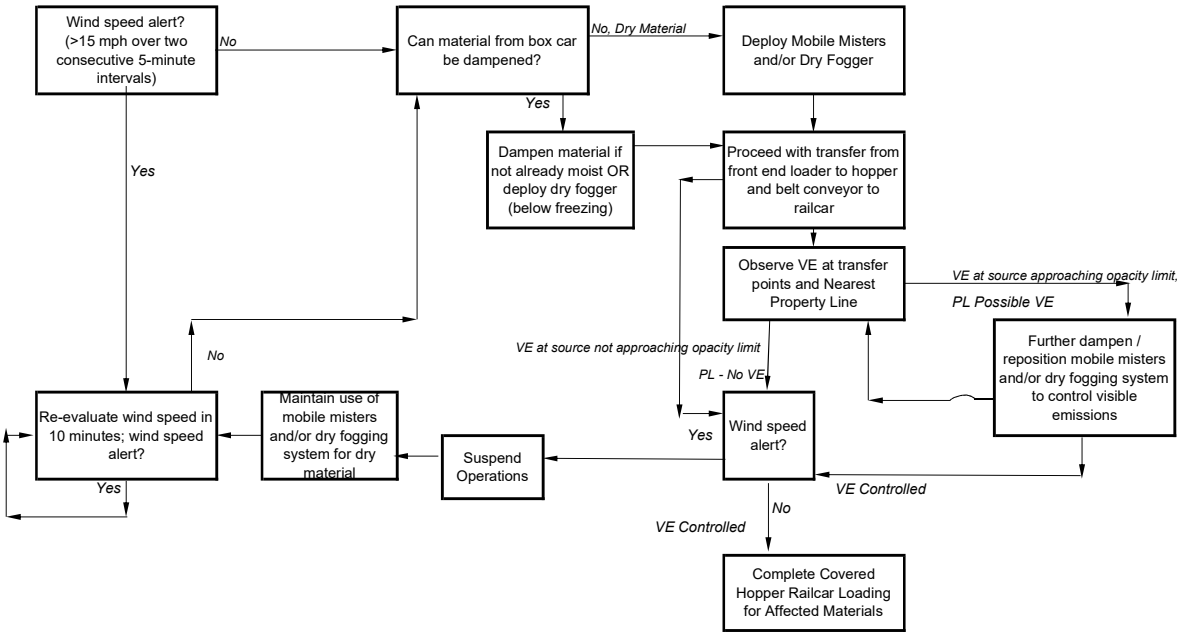


FIGURE 9f. RAILCAR LOADING - COVERED HOPPER RAILCARS (AFFECTED MATERIALS) - FUGITIVE DUST CONTROL

LOADING ACTIVITIES SUMMARY:
Preplan- Evaluate winds to determine if windspeed will exceed 15 mph as an average over two consecutive five minute intervals during transfer operations
Preplan - Determine if material is wetted or dry
Mitigation- For dry materials, position first mobile mister at the top of the conveyor (drop point into the railcar); use loading spout for all materials
Mitigation- For dry materials, position second mobile mister or dry fogging system at the open face of the three-sided hopper that is used to feed the conveyor
Mitigation - Dampen wetted material or deploy dry fogger in freezing temperatures
Mitigation- Reposition the mobile misters as needed throughout operations to impact fugitive emissions
Operations Step- If necessary, remove material from inside storage or outdoor storage to create a pile at the railcar
Operations Step- Position conveyor to minimize drop height into railcar
Operations Step- Choke feed the material from the front end loader into the hopper



Railcar Loading – Open Top Railcars

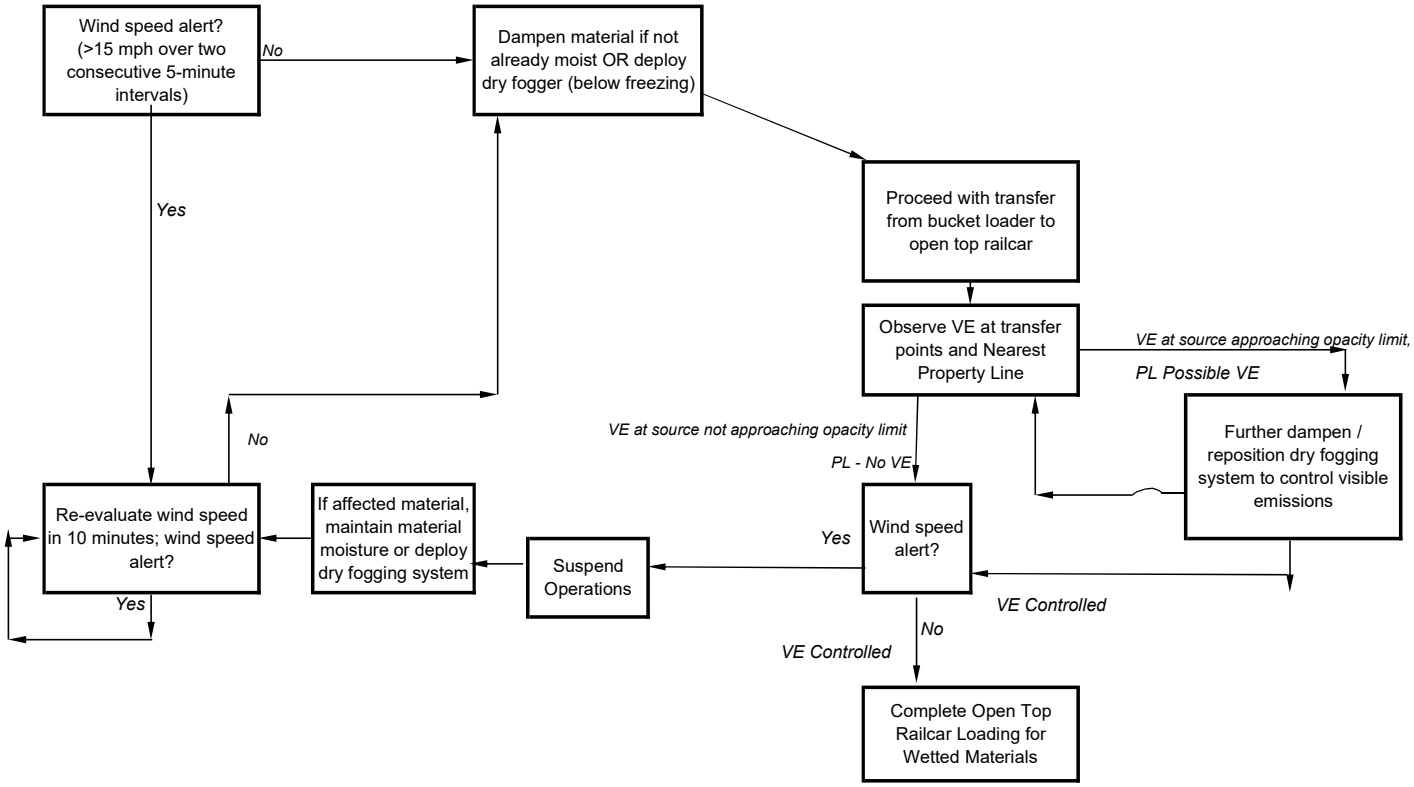
Only Wetted Material is permitted in Open Top Railcars and such material will be dampened prior to loading if moisture is not sufficient. In freezing temperatures, in the rare event that moisture is not sufficient, the dry fogging system will be deployed and appropriately positioned as a dust mitigation measure while unloading, which will cause a curtain or cloud that encapsulates fugitive particulate matter and causes the fugitive particulate matter to settle out of the air.

Open top rail cars are loaded directly with a front end loader, which allows drop height to be minimized more than through use of a conveyor. Drop height is minimized by placing the hinge pin of the bucket as near as possible to the top of the side of the railcar which results in the bottom portion of the bucket being contained inside the railcar when the material in the bucket is off-loaded.

The following decision tree diagram (Figure 9g) is the operating procedure for **Railcar Loading – Open Top Railcars**.

FIGURE 9g. RAILCAR LOADING - OPEN TOP RAILCARS (WETTED MATERIALS) - FUGITIVE DUST CONTROL AFFECTED AND NON-AFFECTED MATERIALS

LOADING ACTIVITIES SUMMARY:
Preplan- Evaluate winds to determine if windspeed will exceed 15 mph as an average over two consecutive five minute intervals during transfer operations
Mitigation/Control- Dampen wetted materials or deploy dry fogger in freezing temperatures prior to loading
Operations Step- If necessary, remove material from inside storage or outdoor storage to create a pile at the railcar
Operations Step- Transfer material from bucket loader into the railcar; drop height of material is minimized by operating procedure for bucket placement



8. BAG AND BOX FILLING OPERATIONS

Compliance Methods: enclosure, air pollution control
The box filling operation is performed under roof, in the Covered Dock (shown on Figure 1), with fugitive emissions from the filling operation captured and directed to a dedicated dust collector. The bag filling operation is located inside the Bowstring Building (shown on Figure 1), with fugitive emissions from the operation captured and directed to a dedicated dust collector. The initial drop to each hopper is performed by front end loader within an enclosure which provides control of fugitive emissions; the box filling operation maintains a pickup point to a dust collector at the initial drop. The bag filling operation has a sliding door that covers the open face of the hopper when not in use; the box filling operation has dust curtains which cover the face of the hopper.

B. TRANSPORT BY TRUCK

Regulatory Requirement:
The applicable requirements at Section 3.0(8) of the Regulation addresses Transport by Truck as follows:

- All vehicles must adhere to a posted speed limit of no more than 8 mph.
- All outgoing material transport trucks are cleaned so that there is no loose material on the exterior tire surface and the material removed by truck cleaning is collected.
- All outgoing material transport trucks pass through a wheel wash station and pass over rumble strips unless other measures are specified to ensure that the trucks will not cause any track-out of materials onto the public way.

Facility Compliance Methods:

- The maximum speed limit for all vehicles at S.H. Bell Co. is 8 mph.
- Physical barriers prevent transport trucks from accessing unpaved areas.
- Chemical dust suppressant is applied at a minimum of once per month.
- Daily road sweeping / watering with ongoing monitoring and recordkeeping of same as described more below in Section C, Roadways.
- Sweeping of the truck route from Avenue N up to South 100th Street, unless the external routes are determined to be free and clear of material from the facility.
- All outgoing material transport trucks are cleaned by rumble strips at the inbound and outbound truck scales to remove loose material.
- Truck tires are observed at the weigh scale upon departure to assure material is not tracked out.
- Roads are also inspected for material track-out as further described below in Section C, Roadways.
- Towards the end of the last shift, visual inspection of internal roads is made and additional sweeping is made at any areas that have debris based on the visual inspection.
- Towards the end of the last shift, one final sweeping of ingress and egress routes of the facility is made regardless of the results of the visual inspection.

The procedures identified above effectively ensure that material trackout from the facility does not occur. Wheel wash stations are only necessary when trucks are traveling on unpaved roads, and as noted above, the transport trucks are physically prohibited from accessing the few unpaved areas at the facility. Monthly chemical dust suppressant applications and the daily watering/sweeping schedule, including final sweeps at the end of the day, also help ensure that material does not accumulate on the paved roads that could attach itself to transport truck tires in the first place. Additionally, the rumble strips installed at the

inbound and outbound truck scales knock off any of the wet material that may have accumulated on the transport truck tires (as noted previously and discussed in detail in Section C below, the facility frequently waters and/or applies dust suppressant to roads). The wet material that is knocked off from the wheels is accumulated in a pan/pit below the rumble strips. Truck tires are observed at the weigh scale upon departure to assure material is not tracked out. Roads are also inspected for material track-out as further described below in Section C. Accordingly, the combination of the facility's road sweeping / watering schedule with ongoing monitoring and recordkeeping of same, the limit of access to the few unpaved areas, as well as the rumble strips installed at the truck scales ensures control equivalent to a wheel wash station such that trucks will not cause any track-out of materials onto the public way.

Regulatory Requirement:
Section 3.0(9)(a) of the Regulation (Vehicle Covering and Other Dust Control) requires that truck trailers need to be covered before leaving the facility.

Facility Compliance Methods:[3]
All semi-trucks carrying materials out of the facility are covered, using the cover supplied by the truck owner/operator that meets the cover requirements in Section 3.09(a) of the Regulation. Trucks loaded within a loadout shed are covered once the truck has safely cleared the exit of the loadout shed. Trucks loaded from outdoor storage piles are covered immediately upon completion of material loading.

C. ROADWAYS

Regulatory Requirement:
Section 3.0(14) of the Regulation requires that all internal roads used for transporting or moving material shall be paved and maintained, with a durable material that is not susceptible to becoming windborne, and in a manner sufficient to bar the expected level of traffic at the facility.

Facility Compliance Method:
All internal roads at the facility that are used for transporting or moving material are paved in accordance with Section 3.0(14) of the Regulation.

Regulatory Requirement:
The regulatory requirement at Section 3.0(15) of the Chicago Bulk Materials Regulation, Roadway Cleaning, includes use of a street sweeper with a water spray and vacuum system, sweeping to be performed so that not more than 4 hours elapses between each street sweeper cleaning or after every 100 truck material receipts or dispatches, but not less than one time daily when the facility is open for business,

[3] The facility uses in-house drayage trucks (straight trucks with a 13' dump bed) for internal transport within the facility and which do not leave the facility with bulk material. Accordingly, the in-house drayage trucks are not subject to the cover requirements in Section 3.0(9)(a) of the Regulation. The in-house drayage trucks are not owned by S.H. Bell Co., but are contracted through a broker on a sporadic basis. As a best practice, the in-house drayage trucks do not exceed an 8 mph speed limit and a minimum of six inches of freeboard is maintained for all loads, both of which effectively prevent any potential fugitive dust or spillage during internal transport. To date, S.H. Bell Co. has not been able to identify any contractors/carriers that provide the required types of drayage trucks with covers or tarps. S.H. Bell Co. is working with the broker to investigate contractors that may supply trucks with covers or tarps, and if so, will give preferential treatment to those contractors going forward.

unless the roads are free and clear of any material transported to or from the facility, and recordkeeping of the sweeping.

Facility Compliance Methods:
S.H. Bell Co.'s street sweeper meets the requirements of Section 3.0(15)(a) of the Regulation as it is equipped with both a water spray and vacuum system.

The Facility's street sweeping schedule complies with Section 3.0(15)(b)-(c) of the Regulation which requires that sweeping be performed so that not more than 4 hours elapses between each street sweeper cleaning or after every 100 truck material receipts or dispatches, but not less than one time daily when the facility is open for business, unless the roads are free and clear of any material transported to or from the facility. The Facility documents the street sweeping and whether the roads are free and clear of any material transported to or from the facility on a daily basis during facility operations. A sweeper with a water spray bar and vacuum system is used for roadway sweeping.

Additionally, as noted in Section B, towards the end of the last shift, visual inspection of internal roads is made and additional sweeping is done at any areas that have debris based on the visual inspection. Further, towards the end of the last shift, one final sweeping of ingress and egress routes of the facility is made regardless of the results of the visual inspection.

S.H. Bell Co. also sweeps the truck route (Avenue N up to South 100th Street) which is within one-quarter mile of the facility, unless the external routes are determined to be free and clear of material from the Chicago Terminal.

Paved roads are also sprayed daily during working shifts, unless observed pavement condition indicates it is unnecessary and/or chemical suppressants are in use. Following a precipitation event and drying of the yard, sweeping will typically precede the application of dust suppressant. Otherwise, the performance of the dust suppressant in terms of binding and pavement adherence may be less than desired. Application equipment is equipped with a spray bar.

Additional watering/chemical suppressant application above and beyond the requirements of the Regulation is dependent upon observed conditions which are documented in the recordkeeping logs. For example, less watering may be required in cooler, calm conditions whereas additional watering may be required in hot, dry conditions. All roads are also sprayed when warranted by visual observation and at least on a monthly basis with a dust suppressant for the purpose of reducing fugitive dust emissions caused by wind or vehicular/equipment traffic. In the winter, salt will be applied to the roadways during working shifts when warranted to prevent icing while reducing potential fugitive emissions. Only two small segments of unpaved road exist at the facility and access to these segments is physically limited.

Regulatory Requirement:
Section 3.0(10) of the Regulation notes that vehicles cannot leak material or liquid onto internal road or waterway. Section 3.0(16) requires that areas not normally used for storage be free of any spilled or misplaced material.

Facility Compliance Methods:
In the rare event that bulk material leaks from cracks in a truck bed or otherwise leaks from a truck onto an internal road, the road will be cleaned within one hour according to the procedures provided above. Any areas not regularly used for storage of bulk materials will be kept free of any spilled or misplaced material and to the extent present will be removed by the end of a regular working shift. In the unique

circumstance where there is a material leak or spill that does create airborne dust or is otherwise hazardous, the facility will take immediate remedial measures. Any material that has the potential to leak or spill into a waterway will be cleaned immediately.

D. OUTDOOR STORAGE PILES

No Affected Materials are stored outdoors. The Facility limits the type of bulk non-Affected Materials that can be stored in outdoor storage piles to the following:

- Wetted Materials that have a predominantly large particle size (greater than ½ inch);
- Dry Materials that have a predominantly large particle size (greater than ½ inch), but only if tarped during storage; and
- Wetted Materials that have a small particle size less than ½ inch in diameter, but only if a very hard cohesive crust forms over the surface of the pile when watered.

The bulk materials that are stored outdoors are not dusty and are not susceptible to being windblown or are otherwise tarped.

Regulatory Requirement:
The regulatory requirement at Section 5.0 of the Regulation addresses Outdoor Storage Pile requirements, including pile height limits (Section 5.0(2)) and required setbacks from waterways (Section 5.0(3)).

Facility Compliance Methods:
S.H. Bell Company requested and received a variance from this requirement from the City of Chicago on October 17, 2016, for a modified setback of 20 feet. This modified setback, in conjunction with current storm water pollution prevention practices as included in the facility's Storm Water Pollution Prevention Plan (SWPPP), effectively provides protection of waterways. This modified setback only pertains to limited areas of the facility, namely the strip of land adjacent to the Middle Slip and the southwestern shoreline as indicated in Figure 1 (Facility Diagram). The maximum pile height allowed is 30 feet; based on the inherent limitations of the equipment used to construct piles, pile heights at the facility are limited to heights between 16 and 30 feet.

Further protection of waterways is achieved by storing only non-water soluble materials outside, absorbent materials are used along the perimeter of outdoor storage areas, and barriers between the site and the river prevent materials from falling, blowing or running off into waterways. In areas near the water, piles consist of materials that are primarily greater than ½" diameter in size.

Regulatory Requirement:
Section 5.0(4) of the Regulation requires disturbance of outdoor storage piles be suspended during High Wind Conditions unless alternate measures are implemented to effectively control dust.

Facility Compliance Method:
The procedures for High Wind Conditions are provided in Section IX, including criteria for suspending operations for outdoor storage piles.

Regulatory Requirement:
Dust suppressant systems are addressed in Section 5.0(5) of the Regulation, which notes that dust suppressant systems must be operable and able to dispense water, water-based solutions, and/or chemical stabilizers, including when the temperature falls below freezing. If the dust suppressant system becomes inoperable, disturbance of outdoor storage piles which are controlled by the inoperable portion must be suspended until the system is operable again.

Facility Compliance Method:
All outdoor storage piles are continually observed throughout the day and a recorded inspection of active piles is performed at least daily to ensure no fugitive dust is generated. Wetted Materials that have a predominantly large particle size (greater than ½ inch) are sprayed with water if moisture is not sufficient to ensure that there is no fugitive dust generated or are tarped when no material transfer is occurring. Materials stored outdoors and which consist of particles one-half inch in size or less are sprayed daily (weather permitting) with water, until crusted and firm or are tarped when no material transfer is occurring. Pile crusting refers to watering the pile until the material is fused, creating a cohesive layer over the pile such that the surface withstands direct pressure, preventing any of the material from becoming airborne or scattered by the wind. Crusting is similar to how granulated sugar will crust when dampened. In freezing temperatures, the surface of the pile is generally frozen preventing fugitive emissions as the moisture in the pile is sufficient to encapsulate particles. Dry fogging is available for use in freezing temperatures. If both the mobile misters and the dry fogging system are unavailable for use, then no active disturbance of the piles will take place.

The number, size, and composition of outdoor piles vary based on customer requirements. Figure 1 illustrates the typical location and general size of outdoor storage piles.

E. Affected Material Storage

No Affected Materials are stored outdoors.

All Affected Materials small-particle piles are stored fully indoors within the bulk material storage buildings. S.H. Bell sweeps the aisles and waters the doorways (weather permitting) of the indoor bulk storage buildings (Norcon and Ryerson buildings) when warranted by a visual observation to prevent Affected Materials from exiting the indoor bulk storage buildings and also (1) at least once per shift when an indoor storage building is in use for handling and/or processing Affected Materials; and (2) at least once per operating day for indoor bulk storage buildings in use for storing Affected Materials.

Large material (predominantly greater than ½ inch diameter material) piles of Affected Materials are not stored outdoors and are stored either indoors within the bulk material storage buildings or in roofed material storage bins, which consist of three-sided, roofed, paved areas and are designed to prevent exposure to wind (the "Roofed Stall Bins"). The Roofed Stall Bins that store large particle Affected Materials will be renovated such that there is no longer one side that is always open to the outdoors. When material transfer activities of large particle Affected Materials are performed, misters or foggers will be used at the point where fugitive dust may be anticipated to emanate. Transfer activities of Affected Materials will be suspended during high wind events. A chemical dust suppressant is sprayed in front of the Roofed Stall Bins when warranted by visual observation and at least on a monthly basis. No small-particle Affected Materials are stored within the Roofed Stall Bins.

F. DUST COLLECTORS

There are five dust collectors currently in use at the facility:

- Norcon Loadout Dust Collector
- Ryerson Loadout Dust Collector
- Box Filling Dust Collector
- Bag Filling Dust Collector
- Portable Dust Collector

Each of these dust collectors is inspected daily when in operation according to specific operational and maintenance requirements. The daily and weekly inspection items, as well as semi-annual maintenance items, are tailored to the type and configuration of each dust collector. As applicable, these items include, but are not limited to, the following:

Daily Inspection

- Differential pressure
- Check operation of pressure gage
- Functioning of filter cleaning system
- Check for unusual fan noise or vibration
- Proper functioning of fan
- Check for visible stack emissions
- Check that hopper is empty
- Hopper discharge device(s) operating
- Check fan and drive belts
- Check compressor functioning
- Check hoses and fittings for leaks
- Check pulse air system manifold for condensation
- Drain condensation from air receiver
- Material collection valve operational and normally closed
- Material collection container in good repair and emptied as required
- Filter media access doors closed and secured

Weekly Inspection

- Check fan and drive belts

Semi-Annual Maintenance

- Inspect fan drive belt

- Lubricate fan bearings
- Change filters (as required)
- Inspect tube sheet condition
- Change material collection container

Records are kept of the daily inspections of each dust collector. Facility personnel perform the inspections as well as any needed operation and maintenance. Any maintenance performed is also recorded. Spare parts for the dust collectors are maintained on site. If during the inspection of the dust collector, it is determined that the dust collector is faulty or not operational, an alternate control measure (as applicable) is instituted, in addition to the contingency measures outlined in Section VIII, until the control device is functional.

V. Description of Truck Routes

The Regulation requires a description of the truck routes within one quarter mile of the perimeter of the facility be included in this plan. Figure 2 shows the roadways in the direct vicinity of the facility and highlights those which are used by trucks coming to and leaving from the facility.

All trucks enter and leave the facility over the truck scales at the northeastern corner of the property. Trucks enter from the intersection of South Avenue N and East 100th Street. These two roads are the most used access roads by truck traffic into the facility. Trucks coming from the west will typically travel east along East 100th Street and then travel south along South Avenue N to the facility entrance. Trucks leaving the facility and heading west will follow the reverse of this route. Trucks coming from the east will typically travel northwest along Indianapolis Boulevard to East 100th Street and head west, turning south to travel along South Avenue N to the facility entrance. Trucks leaving the facility and heading east will follow the reverse of this route.

All roads used by trucks entering or leaving the facility are paved - South Avenue N, East 100th Street, and Indianapolis Boulevard. The City of Chicago regularly sweeps roads in the vicinity of the facility and S.H. Bell Co. has included the truck routes within one quarter mile of the perimeter of the facility (Avenue N up to East 100th Street) in their roadway sweeping activities. Current dust control measures employed on roadways, as described above, including sweeping, dust suppression, tarping, and a maximum vehicle speed of 8 mph acts to prevent the amount of loose material carried out of the facility by trucks.

VI. Dust Suppressant Application Summary

The following summarizes the use of dust suppressants at the facility:

Location	Suppressant Type	Application Frequency
Paved areas	Water	Minimum once daily during working shifts, unless pavement is noted to be controlled (e.g., already wet from rain) or unless one of the two following alternatives are in use:
	Chemical Dust Suppressant	At least once per month
	Salt	When warranted in freezing conditions
Outdoor small-particle piles	Water	Minimum once daily during working shifts, or until crusted/firm
Operations at outdoor storage piles	Water	Whenever operations are performed, per the operating procedures described above
Crusher/screener	Water/suppressant	Whenever operations are performed at hopper above crusher
Railcar Loading / Unloading	Water	Whenever materials are loaded or unloaded via railcar per the operating procedures described above in Section IV
Barge Loading / Unloading	Water	Whenever materials are loaded or unloaded per the operating procedures described above in Section IV
Multiple locations	Mobile Misters	Per the operating procedures described above in Section IV when temperatures are above freezing
Multiple locations	Dry Fogging System	Per the operating procedures described above in Section IV when temperatures are above and below freezing

VII. Dust Surveillance and Monitoring Plan

The dust control strategy at the facility is a proactive approach as outlined in this Fugitive Dust Plan, including documented observations and real-time corrections as required. Visible emissions are monitored and managed at the source of fugitive emissions so as to maintain no visible emissions at the property line. The facility deploys equipment and manpower as needed to immediately correct or otherwise mitigate dust or housekeeping issues and meet internal housekeeping goals and standards. The facility's strategy provides the ability to assess and mitigate unforeseen challenges brought about by "present conditions" in a matter that is prudent and expedient for the identified conditions or situation. Additionally, continuous Federal Equivalent Method (FEM) PM10 source monitors as required by Section 3.0(3)(f)(i) of the Regulation are installed at the locations shown on Figure 1.

A. Daily Monitoring and Action Plan

Facility operations are characteristic of batch processing, with the duration of each operation typically based on the amount of material to be handled. The intermittent nature of operations is incompatible with a rigid schedule of observations. Therefore, on a daily basis, when the source is in operation, a facility general condition review is completed at the beginning of the shift, mid-day, and at the end of the shift to evaluate transportation routes, building entrances and exits for general condition and housekeeping status. The appropriate resources, including manpower and equipment, are dispatched to remedy any noted deficiencies.

The daily production plan is then reviewed with the Terminal Manager to generally plan the fugitive emission observations for the day. The following items are evaluated prior to start of facility activities:

- Review updated weather forecast for the day in order to anticipate any adjustments in control measures;
- Equipment deployment and work practice adjustments based on an objective review (assessment) of conditions present at the start of work activity to match controls to conditions present or otherwise anticipated conditions;
- Anticipate periods of high volume truck loading/unloading to coordinate other terminal activities to allow for increased observations;
- Plan for any rail or barge loading or unloading, as the nature of those activities has the potential for sustained fugitive emissions, to include the following:
    - Series of consecutive observations to validate opacity at excavator to truck transfer work site as well as no visible emissions at the property line in proximity to the unloading activity at the 70-foot Dock, 200-ft Dock, or Dry Dock;
    - Emission mitigation/control activities adjusted for identified conditions, including wind direction, duration, and speed as well as the observed duration of fugitive emissions and plume duration and direction, and possible containment of fugitive emissions.

Adjustments to daily observations are made when there is a change in wind conditions, a change in operating plan/schedule, implementation of corrective action, etc.

B. Visual Emissions Inspections

In addition to ongoing observations for Fugitive Dust at the Source and VE near the property line as described above Section IV in the Operating Procedures for active operations at the facility, the facility implements a Visual Emissions Inspections program that also goes above and beyond the requirements in the Regulations. At least three times per working shift , visible emissions are observed both at the point of generation for each active operation as well as at the property line closest to each active operation that is not controlled by total enclosure or a dust collector. For active operations controlled by total enclosure or a dust collector, a daily visible emissions inspection is undertaken of the processing enclosure egress points and the dust collector exhaust stack. The intermittent nature of active operations at the facility is incompatible with a rigid schedule of observations, however, more frequent inspections are generally performed at outdoor activities such as barge unloading, truck unloading, and working outdoor piles.

The visual emissions inspection are made and documented by facility personnel who are Method 9 certified and familiar with operations and the historical associated visible emissions under normal operating conditions. Visible emissions at the point of generation are observed to determine the presence or absence of Fugitive Dust at the Source and VE near the property line. The criteria for observing visible emissions at the nearest property line based on wind direction is presence / absence and the criteria for Fugitive Dust at the Source is the observation of opacity at an operation / activity that approaches the applicable opacity limit. Corrective measures including additional control are implemented at the point of generation, and are adjusted as needed for current conditions, including wind direction and speed.

If Fugitive Dust at the Source is observed to be approaching an opacity limit and/or the potential for visible emissions at the property line is noted, the following will be undertaken:

- The appropriateness of controls as outlined in Figures 3-9g will be critiqued by the site management team and amended to resolve a recurrence of similar incident.

- A Method 22 reading will be performed after initial corrective actions. Further periodic visible emission observations will be made during the operation. If the Method 22 reading does not confirm the absence of visible emissions, additional controls will be instituted or the operation will be suspended.

- If the operations are not suspended and further corrective actions are instituted, a Method 9 reading will be performed after completion of the corrective actions. Additional periodic Method 22 observations will be made during the operation.

Initiating corrective action and any subsequent decision to increase the frequency of these observations will be dependent on discussion with the Terminal Manager or his designee and upon circumstances of observed conditions and deviations from the controls scheme as illustrated in the operating procedures in Figures 3 – 9g. When necessary, operating procedures will be amended to reflect best management practices and/or control improvements initiated as a result of a negative observation finding.

C. Quarterly Opacity Testing

Although the Regulation only requires quarterly visible emission evaluations pursuant to 35 IAC 212.107 (Method 22, presence or absence of visible emissions), an individual trained and certified to evaluate

visible emissions will perform quarterly visible emission evaluations in accordance with the measurement method specified in 35 IAC 212.109 (Method 9). Opacity reads will be performed at each of the three source types at the facility:

- outdoor storage pile
- roadway
- material transfer point

For purposes of the reads, the outdoor storage pile that contains the material present in the largest quantity at the terminal on the day of the read and the outdoor storage pile containing the smallest size materials will be selected as the read locations. A roadway segment that has heavy truck vehicle traffic on the day of the read will be observed as the representative location. The material transfer point reads will be taken at barge unloading, truck unloading, railcar unloading, and pile creation to the extent in operation on the day of the read. These opacity read locations are designed to detect the greatest amount of dust emissions.

In general, the opacity reads will be performed on clear days or partly cloudy days to provide the appropriate background contrast for Method 9 reads. The regulation requires testing during a range of weather conditions, noted by the CDPH to include variations in temperature and wind conditions. Quarterly opacity reads will be completed during the second or third week of the last month of each quarter (i.e., March, June, September, and December). The specific day(s) will be selected by the certified reader, whose decision will be in part based on weather conditions, including temperature and wind, on previous days that opacity reads were taken, in order to choose reading days on which opacity readings will be conducted during a range of weather conditions. For example, during at least one of the quarterly opacity reads, the certified reader will endeavor to select specific day(s) with hourly average wind speeds over 10 mph.

Opacity reads will be conducted if the weather conditions are suitable for compliance with US EPA Method 9 requirements. If it is raining, snowing, and/or foggy on the test date such that it would affect the ability to follow the US EPA Method 9 procedure, the testing will either be conducted later in the day, or rescheduled to the next available date.

Opacity reads of the representative storage piles and transfer points will be conducted pursuant to 35 IAC 212.109, which references Method 9, 40 CFR Part 60, Appendix A. In general, EPA Method 9 requires that the observation point for transfer points and piles will be the point of maximum opacity at a 4 foot elevation above the transfer point or pile surface. If no opacity is visible, the readings will be taken at the midpoint of the source. Also in accordance with 35 IAC 212.109, opacity reads of roadways will be performed for a duration of 4 trucks passing. Three readings for each truck pass will be taken at 5-second intervals. The first reading will be at the point of maximum opacity, and the second and third readings shall be made at the same point, with the observer standing at right angles to the plume at least 15 feet away from the plume and observing 4 feet above the surface of the roadway. After four trucks have passed, the 12 readings will be averaged.

VIII. Dust Monitoring Contingency Plan

The FEM PM10 monitors are installed at the four cardinal points of the facility in accordance with the U.S. EPA-approved monitor siting plan. The FEM PM10 monitors record PM10 on an hourly basis and store the data electronically. An automated system alerts facility personnel of elevated PM10 readings. The system transmits the alerts via email and text message. Upon receipt of an alert, the Terminal Manager or his designee will determine if the Reportable Action Level (RAL) has been exceeded.

Under the Regulation, the RAL is defined as the positive difference between the level of PM10 measured at an upwind monitor(s) and the level of PM10 measured at a downwind monitor(s) that will trigger response activity. The response activities should consist of a range of increasingly aggressive measures appropriate to different levels of exceedance. The regulation further provides that the RAL may vary based on the value of the difference, and based on the concentration of PM10 detected at the downwind monitor(s) at a Facility. This Dust Monitoring Contingency Plan satisfies each of these requirements.

S.H. Bell will utilize a 24-hour average calendar day approach (the "24-Hour Contingency Procedure"), with regards to definition of RAL because it is most justifiable to compare the RAL to the 24-hour National Ambient Air Quality Standard (NAAQS) for PM10. For purposes of this Dust Monitoring Contingency Plan, the RAL is conservatively set below the 24-hour National Ambient Air Quality Standard (NAAQS) for PM10 of 150 micrograms per cubic meter ($\mu g/m^3$). Accordingly, under the 24-hour Contingency Procedure, if the positive difference between the upwind monitor(s) and the downwind monitor(s) is greater than 125 $\mu g/m^3$ on a calendar day that the facility is operating, a "RAL Event" occurs triggering the requirement to make a report to the City under Section 3.0(4)(d) and to undertake the Response Activities outlined below.

Additionally, S.H. Bell will evaluate hourly PM10 and wind data from the monitors while the facility is operating to determine if there are potentially elevated levels of PM10 at the facility where prudence would dictate implementing the Response Activities below even though it would not be a reportable RAL Event (the "Hourly Contingency Procedure"). Under this Hourly Contingency Procedure, no action is required if the levels from the upwind / downwind monitor difference stay equal to or below 250 $\mu g/m^3$ while the facility is operating, which is below the concentration approved by the CDPH in May 2016 for KCBX[4]. If the positive difference between any upwind monitor(s) and the downwind monitor(s) is greater than 250 $\mu g/m^3$, an "Hourly Event" occurs and S.H. Bell will undertake the Response Activities outlined below. An Hourly Event is further characterized as follows in the Response Activities outlined below that results in a range of increasingly aggressive measures appropriate to these different levels of exceedance:

- "Low" Hourly Event: 250 $\mu g/m^3$ < Upwind/Downwind Concentration Difference < 500 $\mu g/m^3$
- "Medium" Hourly Event: 500 $\mu g/m^3$≤ Upwind/Downwind Concentration Difference < 750 $\mu g/m^3$
- "High" Hourly Event: 750 $\mu g/m^3$ ≤ Upwind/Downwind concentration Difference

[4] The hourly contingency procedure level of 250 $\mu g/m^3$ is very conservative. The OSHA Permissible Exposure Limit (PEL) for General Industry and the CAL/OSHA PEL for respirable dust are both 5 mg/m^3 (5,000 $\mu g/m^3$), which is more than 15 times greater than hourly contingency procedure level.

Response Activities

Step 1: Investigate suspected on-site activities and on-site sources to determine the potential cause:

(1) If a RAL Event, submit a written report to the CDPH within 24 hours.
(2) If an on-site activity or source is identified as having caused a "High" Hourly Event, immediately proceed to Step 4 (Suspend).
(3) If an onsite activity or source is identified for a RAL Event or a "Low" or "Medium" Hourly Event, proceed to Step 2 (Mitigation).
(4) If no potential onsite activities or sources are able to be identified for the RAL Event or the Hourly Event, proceed to Step 6 (Record).

Step 2: Mitigation

a. If a potential onsite activity or source is identified for a RAL event or "Low" Hourly Event, the first and primary response will be water application, whether added directly to material or applied via mobile misters or dry foggers and in accordance with the operating procedures in Figures 3 - 9g and as described in Section IV.
    i. For an outdoor pile, pile maintenance and housekeeping (rotary brush wet sweep) will be performed and/or targeted water addition (via water truck or front end loader).
    ii. For material transfer activities, ensure that drop height is minimized, reduce material feed rate and/or choke feeding is used as possible.
    iii. For roadways, conduct additional sweeping and/or apply targeted water through water truck spray bars and/or apply dust suppressant.
    iv. For wind direction changes, reposition mobile misters or dry foggers as warranted.
b. For a "Medium" Hourly Event, if a potential onsite activity or source is identified conduct the following regardless of the onsite activity or source:
    i. Automatically deploy the mobile misters or the dry fogging unit for Dry Materials.
    ii. Automatically directly water Wetted Materials.
    iii. Conduct Method 9 readings at the onsite source,
    iv. Proceed back to Step 2.a. for further mitigation if the Method 9 reading indicates an exceedance of the applicable opacity limit.

c. Proceed to Step 3 (Monitor).

Step 3: Monitor

a. Monitor PM10 readings after mitigation is implemented:
    i. If the upwind/downwind difference in the monitor at issue in the first hourly reading available to S.H. Bell after completion of mitigation activities in Step 2 is less than or equal to 250 $\mu g/m^3$, proceed to Step 6.
    ii. If the upwind/downwind difference in the monitor at issue in the first hourly reading available to S.H. Bell after completion of mitigation activities in Step 2 is greater than 250 $\mu g/m^3$, institute additional mitigation activities. If the upwind/downwind difference in the monitor at issue in next hourly reading available to S.H. Bell after completion of the additional mitigation activities continues to exceed 250 $\mu g/m^3$, proceed to Step 4.

Step 4: Suspend
Suspend the on-site activity or source identified in Step 1 above and conduct mitigation activities; monitor hourly PM10 levels at the monitor at issue until the upwind/downwind difference in readings is less than or equal to 250 $\mu g/m^3$. In which case, proceed to Step 5.

Step 5: Restart
Restart sources/activities suspended under Step 4 when the upwind/downwind difference between the hourly PM10 levels at the monitor at issue is less than or equal to 250 $\mu g/m^3$.

Step 6: Record
Record and retain a report that contains PM10 data, meteorological information, time of notification/alert, timing of suspension and restart (if applicable), description of mitigation efforts, and any other pertinent information related to the event.

As part of the base plan described in Section VII, short-term PM10 monitoring values will be known throughout a given day, and the Terminal Manager or his designee will make adjustments to the operating plan /schedule, reposition the mobile misters or dry foggers, apply additional dust suppressant application to roadways, etc. as a response to relatively higher hourly or consecutive hourly PM10 upwind / downwind concentration differences considered to be excursions projecting to a possible RAL Event.

Contingency Plan for Monitors

Appendix B contains the Quality Assurance Project Plan (QAPP) for the PM10 monitors and includes operation and maintenance activities associated with the PM10 monitoring program. Any time monitoring equipment has malfunctioned so that readings or data logging is not occurring, the CDPH will be notified within 24 hours. Reporting is not required for maintenance or calibration activities.

If the wind monitor is out of service, web-based local weather data will be used.

If a PM10 monitor is out of service for more than 48 hours, Method 22 opacity readings will be performed daily at the location of the out of service PM10 monitor.

IX. High Wind Events

Wind direction and wind speed data are collected at the onsite meteorological station and stored electronically, as required by Section 3.0(5). The meteorological monitoring system will be calibrated on a semi-annual basis and the wind speed sensors will be swapped and bearings replaced. On an annual basis, the wind direction sensors will be swapped and bearings replaced.

Section 5.0(4) notes that disturbance of outdoor piles, including loading, unloading, and processing, shall be suspended during High Wind Conditions unless alternative measures are implemented to effectively control fugitive dust. As part of production planning, barge unloading and rail unloading activities are generally planned for conditions with anticipated wind speeds of 15 mph or less. Nonetheless, as detailed in Section IV.A, outdoor activities associated with Affected Materials, such as barge loading/unloading, and truck unloading will automatically be suspended for High Wind Conditions. For outdoor activities involving non-Affected Materials, facility personnel will be cognizant of High Wind Conditions, and will suspend these activities if control measures are found to be ineffective in controlling fugitive dust, as per Section 5.0(4).

An alert is provided for "High Wind Conditions," which consistent with Section 2.0(12) of the Regulations, is when average wind speeds exceed 15 mph over two consecutive five minute intervals of time. The alerts are provided via flashing light on the met station and on an alert light on the met station "live" readout screen. When an alert is received, the following activities are initiated:

Notification:

- Operators are notified that a high wind alert has occurred.

Visual Observation:

- Visual monitoring for dust will continue and any required response steps will be performed as outlined in Section IV and Figures 3-17. These figures contain procedures for each type of operation provided in decision tree format which include criteria for determining if temporary suspension of activities is warranted.

X. Recordkeeping

The following records are kept in accordance with fugitive dust control measures, on the schedule noted below, and maintained for a minimum period of three (3) years from the date the record is created. For daily records, the records are kept daily when the facility is operating.

Area	Item	Recordkeeping Frequency
Paved areas	Condition	Daily
Piles	Condition	Daily
Paved areas	Water/chemical suppressant application	Whenever performed
Paved areas	Sweeping	Daily, whenever performed
Control Devices	Inspection, maintenance and repair	Daily when associated source is in operation
Barge unloading / loading Truck loading / unloading Railcar loading / unloading Crusher / screener	Following proper procedures; corrective actions, VE observations	Whenever performed
Small-particle piles	Water application	Whenever performed
Active piles	Following proper procedures, corrective actions, water application as needed	Whenever performed
PM10 Monitor Records	Difference in PM10 readings, corrective actions as appropriate	Whenever PM10 monitor readings meet the criteria outlined in Section VIII
Meteorological Station Records	Hourly wind direction and wind speed	Continuous/daily
Off-site Areas	Dust presence	Whenever sweeping of external truck routes occurs
Facility wide	Water and/or chemical stabilizer application*	Whenever control measures are used
Facility wide	Instances of suspension of water and/or chemical stabilizer application*	Whenever control measures were not used
Facility wide	Date and time of suspension of operations	Whenever operations are suspended due, in part, to high winds (>15 mph)
Facility wide	Date and time when application of control of any transfer point was suspended	Whenever control was not performed
Facility wide	Results of quarterly opacity readings	Quarterly
Facility wide	Result of presence/absence of VE near property line and Fugitive Dust at the Source	Three per shift minimum per operation not controlled by total enclosure or a dust collector. Once daily minimum per operation controlled by total enclosure or a dust collector

The facility will also adhere to the manufacturer's recommendations and schedule for inspection, maintenance, and any required testing of the wet suppressant spray systems, mobile misters, dry fogging system, and the street sweeper referenced in Section IV. As noted in Section IV.F, the dust collectors are inspected daily. Routine maintenance and testing of the dust collectors occurs in accordance with manufacturer's recommendations and any applicable permit requirements. The inspection, maintenance, and testing for the PM10 Monitors and the Meteorological Station is provided in the Quality Assurance Project Plan (QAPP) provided at Appendix B.

Responsible personnel for each of these items will vary, but overall responsibility for implementation of the inspection, maintenance, and testing requirements will remain with the Terminal Manager.

Note:
*For transfer points, vehicles loading, and truck, railcar, and barge loading and unloading, if water and/or chemical stabilizer is applied, the application must be recorded as well as any time when application is suspended for any reason.

XI. Training

Operating facility personnel are trained annually on methods used to reduce fugitive dust emission levels at the facility as indicated by the provisions of this program, including review of this Fugitive Dust Plan, the operating procedures (Appendix A) and recordkeeping requirements. Personnel are trained in monitoring and recordkeeping as required by the responsibilities of their position. New personnel are trained as part of their orientation. Dated records of all employee training are maintained at the facility.

At least two people at the facility maintain EPA Method 9 certification.

XII. Program Update

Facility operations are periodically reviewed in conjunction with this Fugitive Dust Plan. The plan will be updated on an annual basis and submitted to the CDPH for review and approval on or before January 31 each year.

TABLES

Table 1. Summary of Control Measures at Transfer Points
S.H. Bell Company
Chicago Terminal

Emission Source	Transfer Point(s) / Activity	Control Measure(s)				Alternative Control Measure	Additional Comments
		Enclosure	Water Spray System	Vented to Air Pollution Control Equipment	Additional Control/Mitigation Measures Implemented		
Outdoor Storage Piles Activities (Wetted / Dry, Non-Affected)	Front end loader to truck, barge, or rail or processing operation (receipt, internal transfer, loadout)		X (dampen material and/or position mobile misters and/or dry fogging system)		minimize drop heights		inbound shipments of DRI fines no longer accepted for storage or re-loading
Bag Filling Station	Front end loader to hopper/feeder	X					Sliding door closed when not in use
	Hopper/feeder to weigh hopper	X		X			
	Weigh hopper to small storage bag or can	X		X			
Box Filling Station	Front end loader to hopper/feeder	X		X			Hopper curtain covering face of hopper
	Vibratory feeder to box or bulk bag	X		X			
Screen Boxes (Non-Affected Materials)	Front end loader to screen box	X (dry materials to the extent possible)	X (if performed outdoors, material is dampened and/or mobile misters or dry fogging unit used)				
	Screening (first pass through)	X (dry materials to the extent possible)	X (if performed outdoors, material is dampened and/or mobile misters or dry fogging unit used)				
	Screening (second pass through)	X (dry materials to the extent possible)	X (if performed outdoors, material is dampened and/or mobile misters or dry fogging unit used)				

Table 1. Summary of Control Measures at Transfer Points
S.H. Bell Company
Chicago Terminal

Emission Source	Transfer Point(s) / Activity	Control Measure(s)				Alternative Control Measure	Additional Comments
		Enclosure	Water Spray System	Vented to Air Pollution Control Equipment	Additional Control/Mitigation Measures Implemented		
Screen Boxes (Affected Materials)	Front end loader to screen box	X					
	Screening (first pass through)	X					
	Screening (second pass through)	X					
Crusher-Screener	Primary Crush	X	X (foam spray)				
	Primary Screen	X					
	Secondary Crush	X	X (foam spray)				
	Secondary Screen	X					
	Front end loader to hopper	X					
	Hopper to Crusher	X	X (foam spray)				
	Crusher to Screen	X					
	Screen to Storage 1	X					
	Screen to Crush 2	X					
	Crush 2 to Screen 2	X					
	Screen 2 to Storage 2	X					
	Screen 2 to Storage 3	X					

Table 1. Summary of Control Measures at Transfer Points
S.H. Bell Company
Chicago Terminal

Emission Source	Transfer Point(s) / Activity	Control Measure(s)				Alternative Control Measure	Additional Comments
		Enclosure	Water Spray System	Vented to Air Pollution Control Equipment	Additional Control/Mitigation Measures Implemented		
Screener	Primary Screen	X					
	Front end loader to Vibratory Tray	X					
	Vibrator to Bin	X					
	Vibrator to Conveyor	X					
	Conveyor to Screen	X					
	Screen to Bin, top size	X					
	Screen to Bin, mid size	X					
	Screen to Bin, fine size	X					
Product Transfer	Storage bins/outdoor pile to storage piles via front end loader	X (for materials stored indoors, including all affected materials)	X (for non-affected materials stored outdoors, dampen material if moisture not sufficient		minimize drop height	mobile misters and/or dry fogging system for non-affected dry materials	Only non-affected materials are stored outdoors
	Loadout sheds (Ryerson / Norcon buildings), front end loader to truck			X (stationary dust collectors)	1) Close entry/exit roll-up garage doors at each end of the loadout sheds, 2) Minimize drop height; 3) driver waits at least one minute after load is complete before exiting loadout enclosure; 4) Tarp load after safely clearing the exit of loadout shed	Lengthen truck wait time if there is VE approaching opacity limit	
	Direct bulk transfer to outbound trucks		X (dampen material if moisture not sufficient; deploy mobile misters and/or dry fogging system for dry materials)		minimize drop height		

Table 1. Summary of Control Measures at Transfer Points
S.H. Bell Company
Chicago Terminal

Emission Source	Transfer Point(s) / Activity	Control Measure(s)				Alternative Control Measure	Additional Comments
		Enclosure	Water Spray System	Vented to Air Pollution Control Equipment	Additional Control/Mitigation Measures Implemented		
Truck Unloading (Non-Affected Materials)	Truck to ground (outside)		X (for materials stored outdoors, dampen wetted material if moisture not sufficient; deploy mobile misters and/or dry fogging system for dry materials)		choke feed; dry materials tarped following initial transfer		
Truck Unloading (Affected Materials)	Truck to 3-sided steel receiving pan		X (dampen wetted material if moisture not sufficient; deploy mobile misters and/or dry fogging system for dry materials)		choke feed		
Barge Unloading - Bulk (Non-Affected Material)	Barge to truck via excavator		X (dampen wetted material if moisture not sufficient; deploy mobile misters and/or dry fogging system for dry materials)		Minimize drop height		
	Truck to storage	X (for materials stored indoors)	X (for outdoor storage, dampen material if moisture not sufficient		Minimize drop height		
Barge Unloading - Bulk (Affected Material)	Barge to truck via excavator		X (Wetted Materials - dampen if moisture not sufficient, including adding water to barge with water truck or excavator) Dry Materials - mobile misters and/or dry fogging system)		Minimize drop height; maintain barge lids in place for dry material except to allow excavator access at active portion of barge unless presenting a safety risk; suspension during High Wind Conditions		
	Truck to storage	X			Minimize drop height		

Table 1. Summary of Control Measures at Transfer Points
S.H. Bell Company
Chicago Terminal

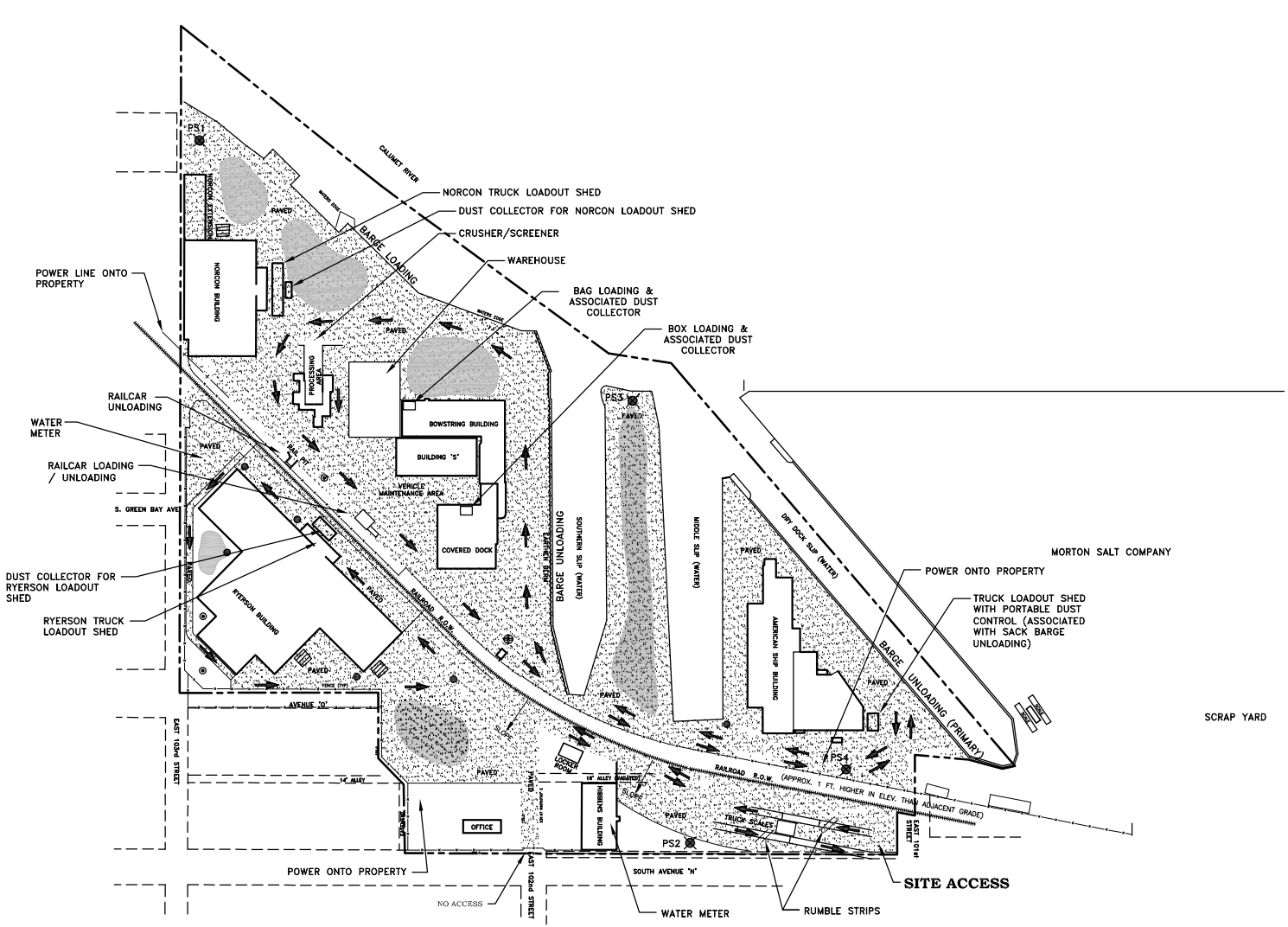
Emission Source	Transfer Point(s) / Activity	Control Measure(s)				Alternative Control Measure	Additional Comments
		Enclosure	Water Spray System	Vented to Air Pollution Control Equipment	Additional Control/Mitigation Measures Implemented		
Barge Unloading - Sacks and Conversion to Bulk (Non-Affected Material)	Sack material release to pile at dock		X (Wetted Materials - dampen if moisture not sufficient, including adding water to barge with water truck or excavator) Dry Materials - mobile misters and/or dry fogging system)		Minimize drop height to approximately 5 feet		
	Pile to truck via front end loader		X (secondary use of direct dampening and/or mobile misters and/or dry fogging system)	X (primary use of portable dust collector)	Minimize drop height		
Barge Loading (Affected and Non-Affected Material)	Storage to dock (ground for non-affected material, 3-sided steel receiving pan for affected material)		X (dampen wetted material if moisture not sufficient; deploy mobile misters and/or dry fogging system for dry material)		choke feed		
	Excavator to barge		X (dampen wetted material if moisture not sufficient; deploy mobile misters and/or dry fogging system for dry material)		Minimize drop height (ability of excavator to reach directly into bottom of barge); suspension during High Wind Conditions for affected materials		
Railcar Unloading - Bottom unload (Affected and Non-Affected Materials)	Railcar to pit pile (bottom unload)		X (deploy mobile misters)		Choke feed		
	Pit to storage via front end loader		X (dampen wetted material if moisture not sufficient; deploy mobile misters and/or dry fogging system for dry material)				

Table 1. Summary of Control Measures at Transfer Points
S.H. Bell Company
Chicago Terminal

Emission Source	Transfer Point(s) / Activity	Control Measure(s)				Alternative Control Measure	Additional Comments
		Enclosure	Water Spray System	Vented to Air Pollution Control Equipment	Additional Control/Mitigation Measures Implemented		
Railcar Unloading - Box cars (Affected and Non-Affected Materials)	Skid steer to box enclosure	X	X (dampen wetted material if moisture not sufficient; deploy mobile misters and/or dry fogging system for dry material)				
	Material removal via front end loader	X	X (dampen wetted material if moisture not sufficient; deploy mobile misters and/or dry fogging system for dry material)				
Railcar Loading - Covered hopper railcars (Affected and Non-Affected Materials)	Front end loader to hopper / belt conveyor		X (primary: dampen wetted material if moisture not sufficient; deploy mobile misters and/or dry fogging system for dry material)		choke feed		
	Belt conveyor to railcar		X (primary: dampen wetted material if moisture not sufficient; deploy mobile misters and/or dry fogging system for dry material)		primary: loading spout / sock; minimize drop height		
Railcar Loading - Open top railcars	Front end loader to railcar		X (dampen material with water truck or front end loader if moisture not sufficient or deploy dry fogging system in sub freezing temperatures)		minimize drop height		

FIGURES

R 006524



KEY
(ALL LOCATIONS APPROXIMATE)

- APPROXIMATE FACILITY BOUNDARY
- TYPICAL BULK STORAGE PILE LOCATIONS (MIN. 20 FT SETBACK)
- TYPICAL TRAFFIC PATTERNS
- COVERED MANHOLE
- INLET TO COMBINED SEWER
- WIND SPEED MONITOR
- PRIMARY AREAS OF TRUCK UNLOADING
- PS2 FEM PM10 MONITOR

THE INFORMATION ON THIS SHEET WAS TAKEN FROM:
GREMLEY & BIEDERMANN, INC.
PLAT PLAN
DATED JAN. 25, 1984
AND FROM
ROWLAND A. FABIAN
DATED JAN. 29, 1997

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 200 ft.

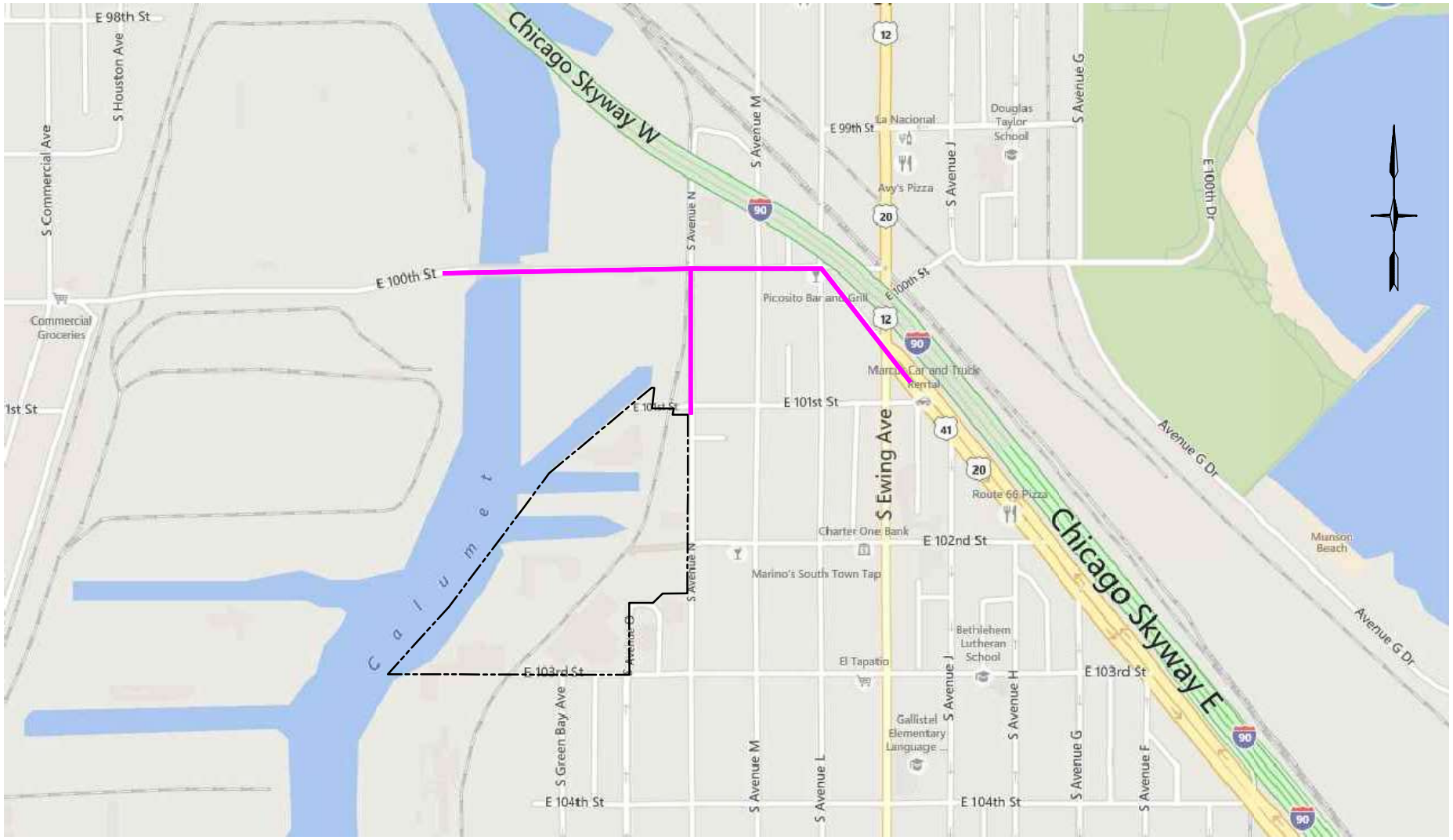
FACILITY DIAGRAM

Chicago Terminal
S.H. Bell Company
Chicago, IL

FIGURE 1

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
GAP	3410140990	KP	10/23/14	09/13/17

9/13/2017 11:47 AM P:\Env\3410 - SH Bell Co Chicago\CADD\3410140990 Fig 1 09-13-17.dwg FIG-1



LEGEND:

APPROXIMATE SITE BOUNDARY

PRIMARY TRUCK TRAFFIC ROUTES

GRAPHIC SCALE

250 0 250 500 1,000

(IN FEET)

1 inch = 500 ft.

amec foster wheeler

ROADWAY LOCATION MAP

Chicago Terminal

S.H. Bell Company

Chicago, IL

FIGURE 2

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
GAP	3410140990	KP	10/23/14	04/03/17

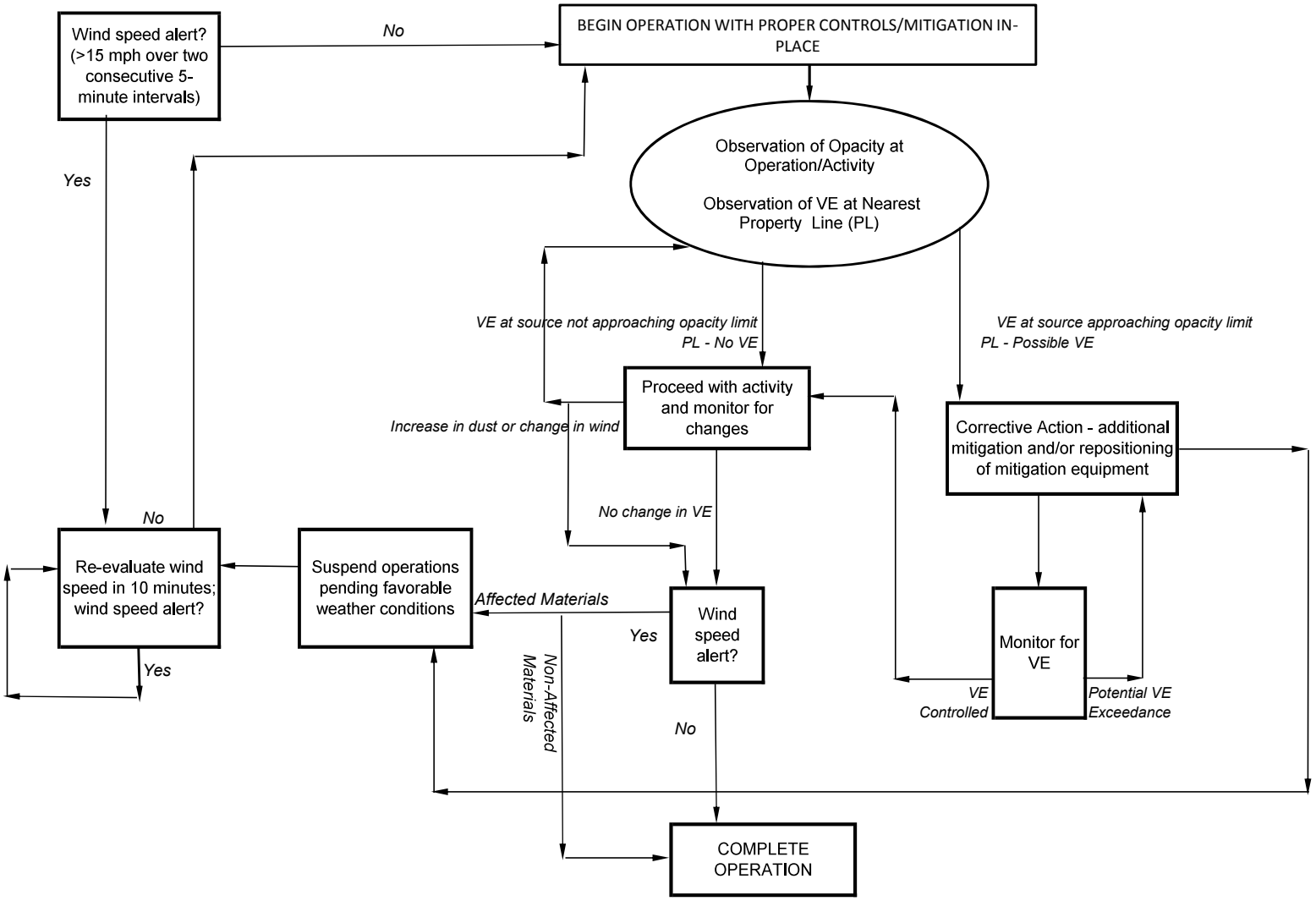
3/30/2017 12:54 PM P:\Env\3410 - SH Bell Co Chicago\CADD\3410140990 Fig 1 04-03-17.dwg FIG-2

APPENDIX A

General Operating Procedures

APPENDIX A

GENERAL OPERATING PROCEDURES FOR FUGITIVE DUST CONTROL / MITIGATION



APPENDIX A

OPERATION OF MOBILE MISTERS / DRY FOGGING UNITS

OBJECTIVE: Provide a curtain or cloud of mist or fog to intercept, knockdown and/or contain fugitive dust

SETUP:

1. Position mister/fogger away from the work activity or area of fugitive emission generation so as not to impede the work activity and also to prevent wetting the material (when addition of moisture is not allowed per customer specifications).

2. Use the wind direction and speed to guide the initial setup location, anticipating the behavior of the fugitive emissions (e.g., fast moving, slow moving, loft, etc.) and the direction of spray for best vertical and horizontal coverage. Sometimes the best location will be to position the spray into the wind to allow the action of the wind to disperse the mist or fog.

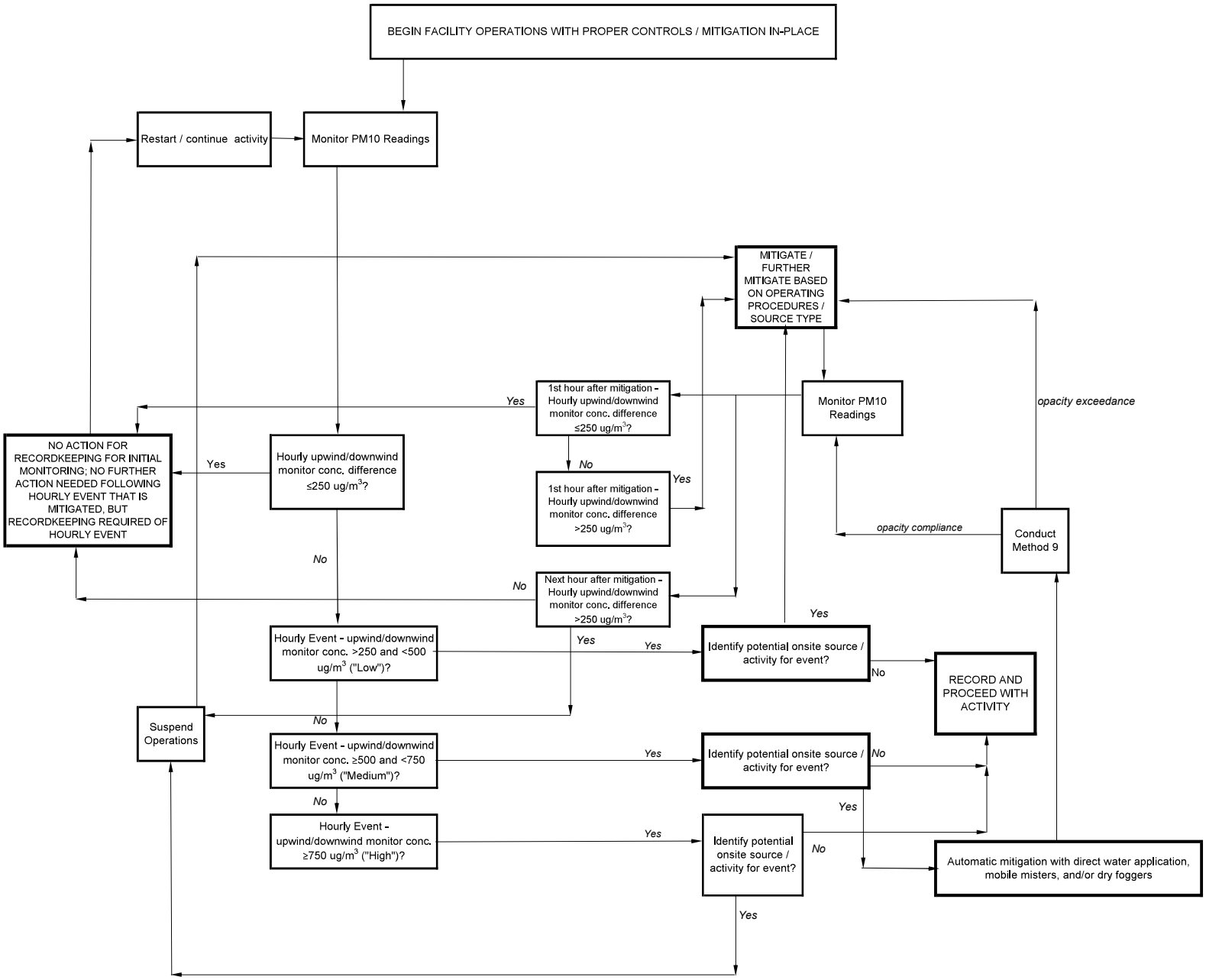
3. Turn on the mister or fogger and water supply, as appropriate.

4. Adjust the spray position vertically and horizontally to achieve a satisfactory spray/fog pattern; satisfactory coverage of the fugitive emission is achieved when visible dust is not observed down wind of the cloud/curtain.

5. Observe for breakthrough downwind. If noted, adjust the spray pattern and/or orientation to increase vertical and/or horizontal coverage.

APPENDIX A

Reportable Action Level (RAL) - Hourly Contingency Procedure



APPENDIX B

Quality Assurance Project Plan (QAPP) for PM10 Monitoring

90

Quality Assurance Project Plan

S. H. Bell Company

Chicago, Illinois

Revision 0

(March 24, 2017)

Prepared for:

S.H. Bell Company
10218 South Avenue O
Chicago, Illinois 60617

Prepared by:

Consolidated Analytical Systems, Inc.
201 S. Miami Avenue
Cleves, OH 45002

Quality Assurance Project Plan

S. H. Bell Company

Chicago, Illinois

Revision 0

(March 24, 2017)

Prepared for:

S.H. Bell Company
10218 South Avenue O
Chicago, Illinois 60617

Prepared by:

Consolidated Analytical Systems, Inc.
201 S. Miami Avenue
Cleves, OH 45002

Approved by:

CAS Project Manager	*Date*
S.H. Bell Company Representative	*Date*
USEPA Region 5 Representative	*Date*
CAS Quality Assurance Project Officer	*Date*

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A. PROJECT MANAGEMENT

This Quality Assurance Project Plan (QAPP) documents the policies and procedures to be implemented at the S.H. Bell Company facility in Chicago, Illinois to meet the United States Environmental Protection Agency (USEPA) guidelines for conducting environmental monitoring programs. This QAPP has been prepared in accordance with the guidance outlined in USEPA's "*EPA Guidance for Quality Assurance Project Plans*", (USEPA, 2002) and "*EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations*," (USEPA, 2001). The purpose of this document is to describe the sampling and analytical methods that will be used to gather the monitoring data, and the procedures employed to assess, control, and document the data quality.

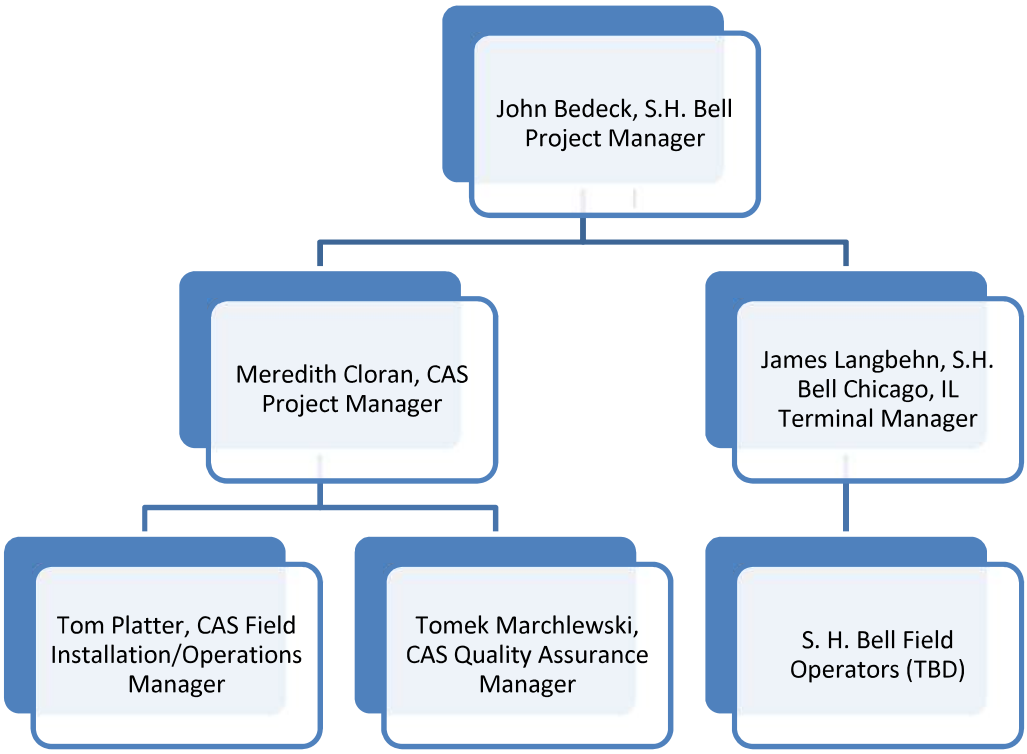
Following this format, this QAPP is divided into five sections with the following contents:

- **Section A – Project Management –** Provides a description of the project organization, administrative functions, and goals, as well as an overview of the project approach.
- **Section B – Measurement and Data Acquisition –** Provides a detailed description of all the elements of the monitoring strategy and methods, including the methods for sampling, sample handling, analytical methods, quality control, instrument calibration, and data management;
- **Section C – Assessment and Oversight –** Provides a description of the procedures that will be used to assess and report on the QA/QC elements employed in the project;
- **Section D – Data Validation and Usability –** Provides a description of the methods that will be used for data review, verification, and validation; and
- **Section E – References –** Provides references to applicable regulatory and method specific documents that form the basis for obtaining the measurement data.

A1 Project/Task Organization

The organizational structure for the air monitoring program at the S.H. Bell facility in Chicago, Illinois and a description of the responsibilities of those within it are described in this section. Figure A-1 shows key personnel and team roles, including the S. H. Bell Project Manager, the CAS Project Manager, the S.H. Bell Field Installation/Operations Manager, and the CAS Quality Assurance Officer. Key individuals and their responsibilities are identified below:

Figure A-1. Project Organizational Chart



S.H. Bell Project Manager – The principal contact person for S.H. Bell Company is Mr. John Bedeck (or his designee). Mr. Bedeck's responsibilities include the following:

- Provide direct oversight of the S.H. Bell monitoring project
- Serve as USEPA's communication contact for all activities at the S.H. Bell Chicago, Illinois facility
- Any changes to the scope of the monitoring program will be made only with the written approval of the S.H. Bell Project Manager and review by EPA Region 5
- Review and submit monthly monitoring reports to USEPA

S.H. Bell Chicago, Illinois Terminal Manager – The S.H. Bell Chicago, Illinois Terminal Manager is Mr. James Langbehn (or his designee). Mr. Langbehn's responsibilities include the following:

- Provide oversight of monitoring activities conducted at the S.H. Bell Chicago, Illinois facility
- Coordinate on-site record keeping, including site visits, operator activities, and monitoring system conditions and corrective actions

- Report exceedences and corrective actions to USEPA Region 5
- Maintain records of S.H. Bell operations (such as dates and duration of material unloading and processing)
- Notify USEPA of any barge unloading operations of direct reduced iron
- Record observations of possible interferences at nearby facilities

CAS Project Manager – Ms. Meredith Cloran is the CAS Project Manager. Ms. Cloran's responsibilities include the following:

- Communicate with S.H. Bell to ensure the full implementation of the QAPP and notification of general corrective actions
- Oversee day to-day project activities, including ensuring the proper execution of the monitoring work and tracking the project budget.
- Provide the primary leadership of the CAS project team members and coordination with the contract laboratory.
- Ensure QAPP objectives are met in accordance with USEPA requirements
- Develop and ensure QA/QC procedures and Standard Operating Procedures are followed
- Report non-confirming conditions to S.H. Bell and follow up corrective actions taken using appropriate documentation procedures.
- Prepare monthly reports for S.H. Bell's review and submittal to USEPA

CAS Field Installation/Operations Manager – Mr. Tom Platter is the CAS Field Installation and Operations Manager. He is responsible for the following items:

- Integrate and install the monitoring equipment
- Perform site set-up and calibration
- Oversee performance of monthly maintenance visits and quarterly audits
- Train field staff to collect field parameters and samples (including filters for laboratory analysis)
- Assemble data records from field technicians and ensure the collection of valid measurement data.
- Assemble data records from field technicians

- Report non-confirming conditions to CAS Project Manager and follow up corrective actions taken using appropriate documentation procedures.

CAS Quality Assurance Manager – Mr. Tomek Marchlewski is the CAS Project QA Manager. He is responsible for the following tasks:

- Oversee remote monitoring
- Perform data validation activities as needed
- Verify required QC activities are performed and that measurement quality objectives are met as prescribed in this QAPP
- Verify data and flags from continuous monitors
- Review laboratory analytical data packages
- Prepare report information in appropriate format
- Report non-confirming conditions to CAS Project Manager and follow up corrective actions taken using appropriate documentation procedures.

S.H. Bell Field Operators – Several S.H. Bell employees provide operations support tasks as described below (each have been trained by the CAS Field Installation/Operation Manager and their activities are overseen by the S.H. Bell Terminal Manager:

- Collect manual samples
- Record relevant field data

A2 Problem Definition and Background

S.H. Bell has been asked to provide information to the United States Environmental Protection Agency (USEPA) under Section 114 of the Clean Air Act (CAA), 42 U.S.C. Section 7414(a) (USEPA, 2015), herein referred to as the Request for Information (RFI). To meet this request, S.H. Bell has submitted, and USEPA Region 5 Air and Radiation Division has approved proposed monitoring site locations for Federal Equivalent Method (FEM) real-time PM10 monitoring and Federal Reference Method (FRM) PM10 filter-based monitoring as well as wind speed and direction monitoring. Per the requirements of the RFI, S.H. Bell will conduct PM10 and meteorological monitoring for a period of one year from the date of installation (noted to be: February 28, 2017) and will submit reports of monthly data to USEPA (S.H. Bell Company, 2016-2017 "Siting Plan"). A copy of the Siting Plan is attached to this QAPP for reference as Appendix D.

In addition, the RFI requires a 10-meter meteorological station be operated at the S.H. Bell facility to measure and record wind speed and direction through the area during the one-year study period. The meteorological station is located near the center of the S.H. Bell Chicago

facility as shown on Figure B-1. The meteorological monitors meet the specifications of USEPA's Quality Assurance Handbook for Air Pollution Measurement Systems Volume IV: Meteorological Measurements Version 2.0 (Final) (USEPA, 2008). The meteorological station is equipped to record the following meteorological parameters:

- Wind Speed
- Wind Direction
- Ambient Temperature
- Barometric Pressure

A3 Project/Task Description and Schedule

This project is conducted to provide air quality and meteorological data from four monitoring sites located around the S.H. Bell Chicago, Illinois facility.

The monitoring stations incorporate continuous Federal Equivalent Method (FEM) real-time PM10 monitors, data loggers, and Federal Reference Method (FRM) PM10 filter-based monitors as outlined in the Siting Plan (S.H. Bell, 2016-2017) – included as Appendix D of this document. Continuous (FEM) monitors are operated to obtain hourly continuous average data. Filter-based FRM monitors are operated to follow the USEPA's 3-day Monitoring Schedule for 2017 (included as Appendix C). PM10 filters collected from the FRM filter-based monitors undergo both gravimetric analysis and determination of lead and toxic metals (arsenic, cadmium, chromium, manganese, nickel, and vanadium) at an off-site laboratory in accordance with FRM/FEM laboratory methods (see Section B for additional detail on laboratory analysis). The meteorological conditions are also continuously measured and are stored in an onsite data logger as five-minute averages. Please note that as of the date of this QAPP, meteorological equipment is operating separately from the PM10 sampling network, until such time as it can be integrated into the monitoring network. S.H. Bell will append the QAPP following integration of the meteorological data into the CAS-operated data acquisition system. Meteorological equipment (wind speed and wind direction equipment and data logger) was initially installed at the S.H. Bell facility in 2014. The system was updated in December 2016 to include temperature and barometric pressure sensors integrated with the meteorological data logger.

The commissioning of the particulate monitoring stations took place February 27-28, 2017. The first filter-based FRM sample was collected March 2, 2017, and additional samples are to be collected in accordance with USEPA's 3-day Monitoring Schedule (See Appendix C). Deliverables for the project include the following items:

1. This QAPP;
2. Hourly data from each continuous monitor and the meteorological monitoring site (in ASCII comma-delimited files) and laboratory data from filter-based sample analysis (in laboratory reporting format) provided to EPA on CD every month; and
3. Monthly data submittal of items detailed in Item 2 above submitted to EPA by email within 14 days of the end of the month being reported for a period of one year. Please see Section B7 for additional detail.

A4 Data Quality Objectives and Criteria for Measurement Data

The EPA has developed a Data Quality Objective (DQO) process for use in the planning of environmental measurement projects. The DQO process has been used in the preparation of this QAPP and in the planning for this project. The results of the 7-step DQO process are shown in Figure A-2. The benefits of the DQO process are that it prompts a statement of the problem or issue, identifies the decision(s) to be made and the inputs needed to make the decision(s), and specifies a decision rule.

Following the DQO process, a set of quality criteria is defined for the measurement data. For this project, those criteria are given in Table A-1. These criteria are designed to provide accurate measurements of PM10 and determination of lead and toxic metals (arsenic, cadmium, chromium, manganese, nickel, and vanadium). The criteria for meteorological data measurements are patterned after the onsite regulatory meteorological monitoring guidance published by EPA (USEPA, 2008).

A5 Documentation and Records

The dataset created for this monitoring program will consist of these components stored for a minimum of five years in the project database:

- The hourly PM10 data from each of the four monitoring sites (from FRM continuous monitors);
- The laboratory analyses of manual samples (from FEM filter-based monitors) for PM10 gravimetric mass and select metals; and
- The 5-minute average wind speed, wind direction, ambient temperature, and barometric pressure at the meteorological monitoring site.

The following sources of information will support these data:

- Station log books (in hard copy and electronic format);
- Calibration and maintenance records for all measurement systems;

- Laboratory reports with quality control results;
- Operational information collected internally by each monitor or sampler;
- Data validation and editing instructions; and
- QA audits of field operations and monitor performance.

Table A-1. DQO Process for S.H. Bell Company Chicago, IL Project

STEP 1	State the Problem	S. H. Bell has agreed to establish a program to conduct both FEM real-time PM10 monitoring at four monitoring locations and FRM PM10 filter-based monitoring at one monitoring location to determine on-site or off- site (whether upwind and/or downwind) contributions, if any, to the monitors. Additional manual sampling is needed to provide speciation data for metals and PM10.
STEP 2	Identify the Decision	An ambient air monitoring program conducted at the areas identified by predominant wind flow and potential for community impact. The speciation data will be used to assist in possible determination of PM10 sources.
STEP 3	Identify the Inputs to the Decision	Measurements of PM10 concentrations will be made at four (4) locations as 1-hour averages. Meteorological data (wind speed, wind direction, ambient temperature, barometric pressure) will be collected on a 5-minute basis at the existing meteorological station located in the central portion of the S.H. Bell Facility. Speciation samples will be obtained from two instruments located at monitoring station S4 (See Figure B-2).
STEP 4	Define the Study	The sampling locations and frequency of sampling are defined in Section B of the QAPP document.
STEP 5	Develop a Decision Rule	S.H. Bell will use the reported concentration levels and meteorological data to help assess net facility impacts and upwind background.
STEP 6	Specify the Limits of Decision Error	Calibration of the monitoring equipment will be conducted as specified in EPA guidance documents and quality control limits will conform to guidance. See Tables A-1 and A-2.
STEP 7	Optimize the Design	If the current system does not conform to the required QA/QC protocols, S.H. Bell will initiate corrective action to bring the program into conformance.

Table A-2. Quality Criteria for Measurement Data

1. Measurements of PM_{10} using EPA Federal Equivalent Method (FEM) Monitor (BAM-1020, EQPM-0798-122	
Sensitivity	Lower Detection Limit <4.8 µg/m^3 2σ, 1-hour average
Accuracy	Meets EPA Class III FEM Standard for additive and multiplicative bias; flow rate measurement accuracy ±4% at 16.7 LPM
Range	1 – 1000 µg/m^3
Completeness	75% sample capture rate or better quarterly for each monitor at each site (with the exception of Acts of God, loss of power, scheduled calibration/audit events, or other situations over which neither S.H. Bell nor their monitoring contractor have control)
Cycle Time	One hour
2. Measurements of Metals using EPA Method IO-3.5 (ICP-MS)	
Accuracy	±20% for analytical results above the reporting limit
Precision	±10% for analytical pairs above the reporting limit
Completeness	80% or better quarterly for each sampler (with the exception of Acts of God, loss of power, or other situations over which neither S.H. Bell nor their monitoring contractor have control)
3. Measurements of PM_{10} using EPA Federal Reference Method (FRM) Sampler (Tisch Environmental TE-6070 DV-BL, Federal Reference Number RFPS-0202-141)	
Accuracy	Flow rate measurement accuracy ±7% of the calculated Qa [Orifice] (USEPA, 1999a)
Precision	N/A
Completeness	75% sample capture rate or better quarterly for each sampler (with the exception of Acts of God, loss of power, or other situations over which neither S.H. Bell nor their monitoring contractor have control)
3. Measurements of Meteorological Parameters using weather instruments (Climatronics/MetOne Wind Speed, Wind Direction, Temperature, Barometric Pressure)	
System Accuracy	TBD*
Precision	EPA methodology does not provide for assessment of measurement precision
Completeness	90% or better quarterly for meteorological data based on hourly averages with a minimum 75% completeness of 5-minute data to construct a valid hourly average (with the exception of Acts of God, loss of power, scheduled calibration/audit events, or other situations over which neither S.H. Bell nor their monitoring contractor have control)*

*As of the date of this QAPP, meteorological equipment is operating separately from the PM10 sampling network, until such time as it can be integrated into the monitoring network. S.H. Bell will append the QAPP following integration of the meteorological data into the CAS-operated data acquisition system.

B. MEASUREMENT DATA ACQUISITION

B1 Sampling Process Design

S.H. Bell will establish four monitoring sites at its Chicago, Illinois facility in accordance with the requirements detailed in USEPA's Section 114(a) request. Details of the source area, sampling methods, sample handling, analytical methods, Quality Control (QC), instrument testing and calibration and data management are described in the following sections.

B1.1 Source Environment Description

S.H. Bell's Chicago, Illinois facility is located in south Chicago, approximately 13 miles south of the city center, in the community of East Side between Lake Michigan and the Calumet River. The S.H. Bell facility is located approximately ½ mile west of Lake Michigan and is bordered to the west by the Calumet River. The elevation of the area is approximately 590' above sea level, and terrain is relatively flat.

The local land use categories include refining and heavy industry in the corridor along the Calumet River. Surrounding areas to the east and south are primarily residential. Minor river ports and canals are present in the area and provide access to Lake Michigan.

The climate of the area where the Terminals are located is characterized by cold winters and warm summers with occasional heat waves. The average temperature in January is 22º F and the average temperature in July is 73.3º F, although 90º summer days are not uncommon.

The annual average snowfall in winter is 37.5" and the annual average precipitation total is about the same. The proximity of S.H. Bell to Lake Michigan's southernmost tip brings wind effects year-round. Annual wind roses for the S.H. Bell facility indicate a strong NW component. In general, the predominant wind direction in the vicinity of the site is from southwest to northeast. (See Figure B-2).

B1.2 Monitor Site Description

Figure B-2 shows the locations of the monitoring stations S.H. Bell will operate as part of this program. The yellow outline indicates the approximate property boundaries. An example historical wind rose plot from the S.H. Bell facility is shown in Figure B-2. Table B-1 lists the monitoring network configuration by site.

Figure B-1: Monitoring Site Locations for the S.H. Bell Chicago Facility

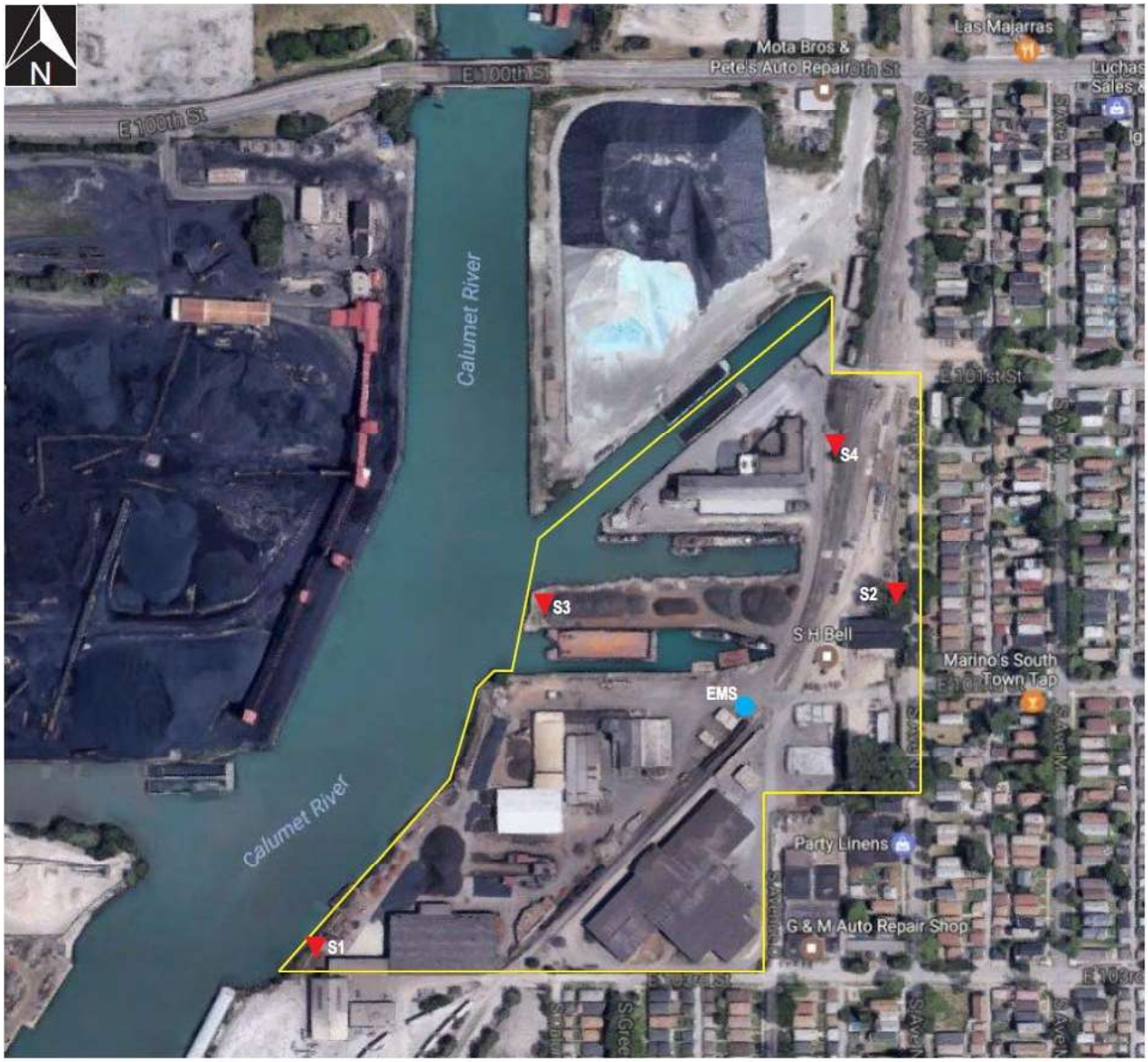
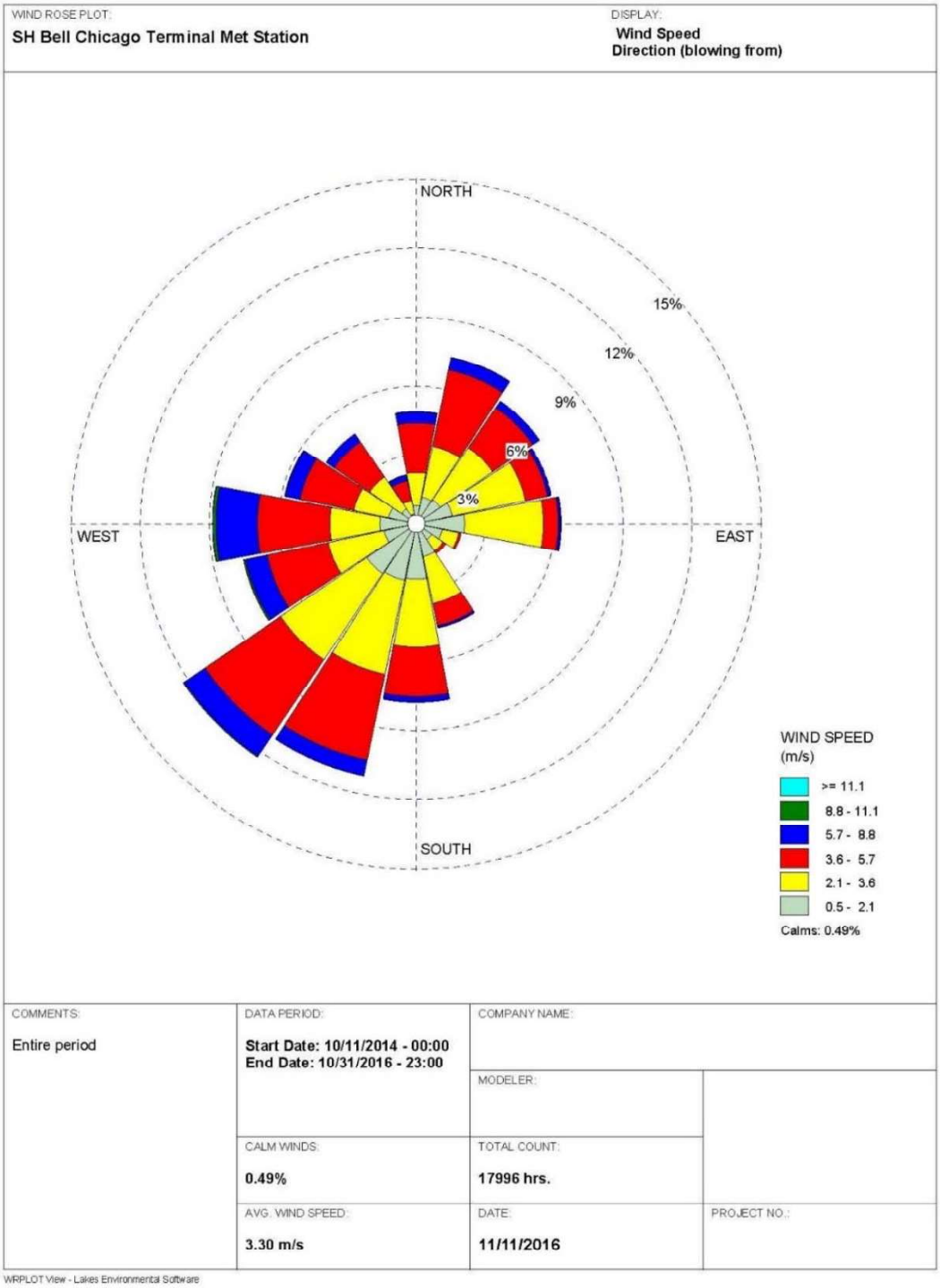


Figure B-2: Historical Wind Rose Data (October 2014 thru October 2016) for S.H. Bell Chicago Facility



B2 Sampling Methods Requirements

Sample collection methods are presented in this section as are sample documentation and control requirements that are applicable to the network. Three types of sampling methods have been identified for the S.H. Bell monitoring network. Hard copies of equipment manuals are kept on-site at the S.H. Bell facility inside each equipment shelter at S1, S2, S3, and S4. Electronic copies of the manuals are also stored on the CAS project server maintained at CAS's Cleves, Ohio facility.

Table B-1. S.H. Bell Monitoring Network Configuration by Site

Monitoring Site ID	Approximate Location		Monitoring Equipment
	Northing	Easting	
S1	41.708239	-87.544058	BAM-1020 monitor for PM10 (Continuous FEM)
S2	41.710553	-87.539204	BAM-1020 monitor for PM10 (Continuous FEM)
S3	41.710552	-87.542043	BAM-1020 monitor for PM10 (Continuous FEM) Agilaire 8872 Datalogger
S4	41.711541	-87.539607	BAM-1020 monitor for PM10 (Continuous FEM) Two (2) Tisch Environmental HiVol 6070 DV-BL Filter-Based FRM PM10Monitors
EMS (Existing Monitoring Station)	41.709841	-87.540376	Meteorological monitors (Climatronics: Wind Speed, Wind Direction, Temperature, Barometric Pressure, Data Logger)

B2.1 Sample Collection Methods

BAM-1020 FEM PM_{10}

The PM10 continuous monitors collect ambient particulate matter samples through a size-selective inlet that is designed to allow only particles with an aerodynamic diameter <10 µm to pass through to the measurement apparatus. PM10 is measured using the MetOne Instruments Model BAM-1020 (EPA designated Class III Federal Equivalent Method EQPM-0798-122).

At the beginning of each sample hour, a small 14C (carbon-14) element emits a constant source of high-energy electrons (known as beta rays) through a spot of clean filter tape. These beta rays are detected and counted by a sensitive scintillation detector to determine a zero reading. The BAM-1020 then advances this spot of tape to the sample nozzle, where a vacuum pump pulls a measured and controlled amount of outside air through the filter tape, loading it with ambient dust. At the end of the sample hour, this dust spot is placed back between the beta source and the detector, thereby causing an attenuation of the beta ray signal which is used to determine the mass of the particulate matter on the filter tape.

This mass is used to calculate the volumetric concentration of particulate matter in ambient air.

Specifications for the BAM-1020 are provided in Table B-2. The operation, calibration, and maintenance requirements of the BAM unit are outlined in the MetOne BAM-1020 manual "BAM 1020 Particulate Monitor Operations Manual, BAM-1020-9800, Rev H" (MetOne 2008). A hard copy of the BAM-1020 manual is kept in each of the four monitoring station buildings at S.H. Bell monitoring sites where they operate (S1, S2, S3, and S4). In addition, an electronic copy of the manual is available to all project team members in the Tech Info folder of the S.H. Bell client folder on the CAS Cleves server. The sample inlet height is approximately 3 meters, within the 2-7 meter inlet height specification.

Table B-2. BAM-1020 Specification

Parameter	Specification
Range	1 – 1000 µg/m3
Sensitivity Std Deviation (σ; 1 hr)	<2.4 µg/m3
Flow Rate	16.7 liters/ minute (LPM)
Beta Source	Carbon-14; 60µCi ±15 µCi
Operating Temperature*	0º to 50ºC
Humidity Control	Active control inlet heater; 35% RH setpoint
Analog Output	0-1 VDC std; selectable voltage and current ranges
Memory	182 days @ 1 record/hour

*Operating temperature inside the equipment shelter

Tisch Environmental HiVol 6070 DV-BL Filter-Based FRM PM10

The Tisch Environmental Hi-Vol PM10 FRM samplers collect ambient particulate matter samples through a size-selective inlet that is designed to allow only particles with an aerodynamic diameter <10 µm to pass through to the measurement apparatus. PM10 is measured using the Tisch Environmental Model 6070 DV-BL sequential sampler (EPA designated Federal Reference Method RFPS-0202-141). Specifications for the Model 6070 DV-BL are provided in Table B-3. The operation, calibration, and maintenance of the unit is in accordance with the August 10, 2010 revision of the Tisch Environmental, Inc Operations Manual for 6000-Series PM10 High Volume Air Samplers (Tisch, 2010). A hard copy of the Tisch Environmental Manual is kept in the monitoring station buildings at S.H. Bell monitoring site S4. In addition, an electronic copy of the manual is available to all project team members in the Tech Info folder of the S.H. Bell client folder on the CAS Cleves server. The sample inlet height will be approximately 60 inches from the platform.

Table B-3. Tisch Environmental 6070 DV-BL Specification

Parameter	Specification
Particle Size	PM10
Flow Range	40 cubic feet per minute
Filter Size	8" x 10"
Federal Reference Method	RFPS-0202-141
Flow Control	Volumetric
Motor Type	Brushless
Timer	Digital, 11 day

Meteorological Measurements

An existing 10-meter meteorological tower was installed at the S.H. Bell Chicago facility in 2014. The tower is equipped with wind speed, wind direction, temperature and barometric pressure monitors. The tower continuously measures and records wind speed and wind direction at one-hour intervals. S.H. Bell is able to correlate 1-hour and 24-hour ambient PM10 measurements with wind speed and wind direction data to determine source direction and the effects of wind speed on PM10 concentrations. The meteorological tower also includes calibrated ambient temperature and pressure instrumentation to determine corrected (actual) PM10 concentrations as recorded by the monitors. As of the date of this QAPP, the meteorological equipment is operating separately from the PM10 sampling network, until such time as it can be integrated into the monitoring network. The meteorological monitoring tower remote data collection, archiving, and monthly reporting will be performed monthly S.H. Bell. S.H. Bell will append this QAPP with additional detail regarding the meteorological equipment once it has been integrated into the PM10 sampling network. Table B-4 lists specifications for meteorological sensors.

Each meteorological monitor is wired into a Climatronics data logger with a network interface module at the meteorological tower. The data logger program for the meteorological equipment is LoggerNet. Meteorological monitoring tower remote data collection, archiving, and reporting will be performed monthly by S.H. Bell. Data will be archived and edited as necessary. Reports with hourly average meteorological data including wind speed, and wind direction will be provided to USEPA by S.H. Bell monthly. Semi-annual calibrations of the meteorological monitoring system will be performed by Murray and Trettel, Inc. NIST-traceable test equipment will be used during calibration. Wind speed sensors will be swapped and bearings replaced every 6 months. Wind direction sensors will be swapped and bearings replaced every 12 months. Completed calibration logs will be provided to S.H. Bell.

Table B-4. Meteorological System Components

Components	Climatronics/MetOne* Part Number)
Wind Speed Sensor (2)	100075S
Wind Direction (2)	100076S
Platinum Temperature Probe	T-200A*
Six Plate Radiation Shield	5980*
Barometric Pressure Sensor	102663-2*
Crossarm	101994-1
External Heaters	101235-G1
Heater AC Cable	101255-40
Wind Cable	100605-40
Data Logger in Enclosure	102700-G1
Battery Back-Up Power Supply	101139
AC Surge Protector	415
Signal Line Surge Protector	101904
Network Link Interface	CNL201
Windows Data Logger Software	LOGGERNET
Tower Kit – 34'	970895
Full Height Grounding Kit	100924

*Denotes MetOne part number. All others are Climatronics part numbers

Additional measurements of ambient temperature and barometric pressure will be collected from each BAM-1020 unit using onboard sensors, which enable them to calculate the correct flow rates for PM10 monitoring. Sensors will be sited according to EPA guidelines.

Shelters

Temperature controlled shelters (CAS 9004 series) with an equivalent insulation value of R-25 will be installed at each of the four monitoring sites (S1, S2, S3, and S4). Each shelter is equipped with a commercial-grade climate control system. All internal wiring meets or exceeds National Electrical Code (NEC). Each shelter is equipped with a sample inlet flange through which the BAM-1020 inlet tubing is routed. Roof flange also accommodates the BAM-1020 temperature/pressure data signal cable.

Data Systems and Software

The BAM-1020 units have onboard data logging capability of up to six months, so data values and diagnostic information are readily accessible. Agilaire's AirVision software is used to communicate with the BAM-1020s.

An Agailaire Model 8872 data logger is located at monitoring site S3. It is connected to the other three monitoring sites (S1, S2, and S4) with the use of radio modems to receive data from the BAM-1020 FEM monitors. The radio modem at S3 is a base unit that receives communication from the other remote radio modems at S1, S2, and S4. Data from the

Agilaire 8872 data logger is transmitted via cellular modem to AirVision (the Agilaire data reporting and validation package), which is hosted on the CAS server in Cleves, Ohio. Figure B-3 provides an overview of shelter configurations at the four monitoring sites

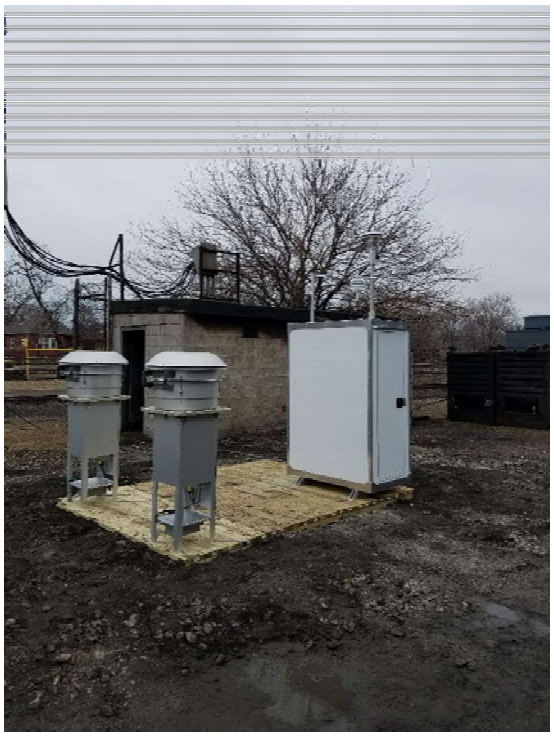
Each meteorological monitor is wired into a Climatronics data logger with a network interface module at the meteorological tower. The data logger program for the meteorological equipment is LoggerNet.

Figure B-3. Overview of Shelter Configurations

S1 (Monitoring Site 1)

S2 (Monitoring Site 2)

S3 (Monitoring Site 3)



S4 (Monitoring Site 4)

All datalogger, monitor, and sampler time settings will be set within ±60 seconds of the site technician's reference time obtained from a local cell phone network and checked at least once every 30 days. Instrument clocks that are more or less than 60 seconds from the reference clock shall be reset to within 60 seconds of the reference clock. Records of resets will be recorded in the appropriate site logbooks housed at each of the monitoring sites.

B2.2 Sample Documentation and Control Requirements

Field operation records include site visit and maintenance logs, checklists, chain of custody forms, continuous monitor calibration documents, high-volume sampler calibration and flow verification records, and meteorological calibration documents. All of these records are in electronic form, as spreadsheets or text files. All field operation records are returned at least monthly to the CAS project manager for inclusion in the project files. The automatic data polling systems for the continuous monitoring network is password protected and only CAS team members have access. Sample checklists and calibration documents are presented in Appendix A and an example chain of custody form for laboratory samples is presented in Appendix B. The chain of custody protocol will follow the general guidance of Section 8 of Volume II of the EPA QA Handbook and sample specific requirements for storage and handling in each applicable analytical method.

B3 Analytical Methods Requirements

The monitoring program will collect 24-hour PM10 filter samples from the Tisch Environmental High Volume Filter-Based FRM PM10 monitors that will undergo both gravimetric analysis and determination of lead and toxic metals. To optimize the sampling schedule, CAS will operate two Tisch Environmental Model 6070 DV-BL PM10 samplers at monitoring site S4. These samplers will operate from midnight to midnight, every three days, according to USEPA's 3-day sampling schedule. The USEPA's 2017 3-day sampling schedule is included as Appendix C. The first sample date is set for March 2, 2017. Particulate matter is collected on numbered, pre-weighted 8" x 10" filters supplied by Intermountain Laboratories in Sheridan, Wyoming. Samples will be collected approximately weekly, after every 1-3 sample events as determined by the sampling schedule and S.H. Bell's operating hours and returned to the Intermountain Laboratories in Sheridan, Wyoming for gravimetric analysis and determination of lead and toxic metals.

Intermountain Laboratories will initially perform a gravimetric analysis of the filters to determine PM10 mass concentration using USEPA Compendium Method IO-2.1 (USEPA, 1999a). The mass concentrations produced should provide a general indication of measurement agreement with the BAM-1020 continuous monitors at each of the S.H. Bell Chicago facility's four monitoring sites.

Following gravimetric analysis, for the determination of lead and toxic metals (arsenic, cadmium, chromium, manganese, nickel, and vanadium), filters are extracted using microwave or hot acid, then analyzed by inductively coupled plasma/mass spectrometry (ICP/MS). Intermountain Laboratories performs the extraction procedure in accordance with USEPA's Inorganic Compendium Method IO-3.1 (USEPA, 1999b). Intermountain Laboratories performs the determination of metals by ICP/MS in accordance with USEPA's Inorganic Compendium Method IO-3.5 (USEPA, 1999c). The estimated Method Detection Limit (MDL) for each of the target metals is listed in Table B-5.

Table B-5. Estimated Method Detection Limits for Target Metals

Metal	Method Detection Limit (in ng/m^3)
Arsenic	0.52
Cadmium	0.10
Chromium	0.26
Lead	0.10
Manganese	0.26
Nickel	0.52
Vanadium	0.52

*ng/m3 – nanograms per cubic meter

Laboratory records include sample cassette IDs imprinted on the filter support screens, chain-of-custody forms matching cassette ID to sample ID, raw data files from the analysis, QC check data, analysis reports, and electronic data files for transmittal to the project database. The laboratory is responsible for maintaining these records, and long-term archival of records is accomplished using a well-defined laboratory procedure. Each time that the lab receives field samples, sample login e-mail verification is sent to the data management task leader, as a scanned Adobe Acrobat file of the chain-of custody form.

An important consideration of the analytical work is the treatment of data at low concentrations near the method detection limit for the laboratory. Each laboratory has two boundaries within its S.H. Bell reporting protocol: the Method Detection Limit (MDL) and the Reporting Limit (RL). Each target compound on the S.H. Bell list has a unique MDL and RL. The RL is typically five times higher than the MDL, and results reported within this concentration range between MDL and RL are flagged as such. The precision and accuracy specifications are applicable to measurement data at or above the RL, and lower concentration data are possibly outside the quality specifications and should be treated accordingly by data users. The laboratory analysis conditions, such as sample or digestate volume can vary slightly from sample to sample, so these numbers are not absolute.

B4 Quality Control Requirements

The quality control (QC) methods employed in the S.H. Bell Chicago monitoring network are described in this section. Field QC efforts are described in Section B4.1 and lab QC efforts are described in Section B4.2.

B4.1 Field Quality Control

Field quality control encompasses several areas of concern. The tasks required of the field technician to promote quality are as follows (calibration tasks are discussed in Section B5):

Documentation

The operator will maintain a file of site information that will include site visit and maintenance logs, operator checklists and calibration data. A logbook and field forms are kept in the monitoring equipment shelters at each of the S.H. Bell Chicago monitoring stations (S1, S2, S3, and S4). Copies of this documentation will be forwarded to the project team at least monthly, and these items will be retained in the project files. Submittal via electronic mail is acceptable. Examples of the calibration data sheets and operator checklists are presented in Appendix A.

PM10 Continuous Monitor Checks (BAM-1020)

Monthly leak check, quarterly flow rate check and temperature/pressure transducer checks, and yearly 72-hour zero checks will be performed on the BAM-1020s. In addition, leak checks and flow or temperature/pressure checks will also be performed after any major maintenance, as recommended in the BAM-1020 manual. Additional maintenance checks are listed on the monthly QC spreadsheet used for this project (an example is shown in Appendix A).

High-Volume PM10 Monitor Checks (TE 6070 DV-BL)

Appendix B includes a sample Chain-of-Custody (COC) form and sample Particulate Sampler Field Envelope for the contract laboratory performing gravimetric analysis and determination of lead and toxic metals (Intermountain Laboratories). Five-point multi-point calibrations will be performed on the TE 6070 DV-BLs annually, and single point flow verifications will be performed quarterly. Checks will be recorded on a QC spreadsheet. Additional maintenance checks are listed on the monthly QC spreadsheet used for this project (an example is shown in Appendix A).

Meteorological Equipment Checks

The field technician will visually inspect the meteorological equipment at each visit (approximately weekly) for signs of deterioration or damage. Any damage will be reported to Murray and Trettel, Inc., the meteorological equipment contractor. The meteorological

sensors will be calibrated with NIST-traceable test equipment, which will be provided to S.H. Bell. The field technician will also review recent data and compare it to local weather reports or National Weather Service conditions for the area.

All sensors are initially calibrated and certified by the instrument manufacturer and then compared to a traceable standard under ambient conditions every six months when deployed to the field.

The ambient temperature and barometric pressure sensor outputs will be compared to traceable temperature and pressure standards of known accuracy every six months with the meteorological system calibration. The monthly check for the onboard temperature and pressure sensors for the BAM is documented on the BAM QC form, since the temperature and pressure readings are critical to subsequent PM10 mass calculations. A summary of service checks is proved in the BAM manual (refer to Section 7 of the manual).

Shelter Checks

The shelter's role in quality control is to provide a temperature-controlled environment in which the monitoring equipment can operate at optimum performance. Monitors and data loggers must be housed in a shelter capable of fulfilling the following requirements:

- The shelter must protect the instrumentation from precipitation and excessive dust and dirt, provide third wire grounding as in modern electrical codes, meet federal Occupational Safety and Health Administration regulations, and be cleaned regularly to prevent a buildup of dust.
- The shelter must protect the instrumentation from any environmental stress such as vibration, corrosive chemicals, intense light, or radiation.

B4.2 Laboratory Quality Control

The following lists present some of the common quality control procedures required by the methods for each type of analysis. Specific quality control measures are provided in the laboratory SOP documents kept on file and available via request at Intermountain Laboratories.

Gravimetric Analyses

Laboratory quality control for gravimetric mass analyses by USEPA Compendium Method IO-3.1 includes the following:

- Use media that meet the requirements for sampling presented in IO Method IO-3.1 Section 4.
- Equilibrate media under the temperature and humidity control requirements of the Method before weighing.

- Use the same microbalance for pre- and post-sampling weighing events.
- Calibrate the microbalance using Class S standard weights.
- After every tenth weighing, re-zero the balance and perform a standard weight check.
- Reweigh 10% of the samples using a different analyst.

Metals Analyses

Laboratory quality control procedures for metals analyses by USEPA Compendium Method IO-3.5 includes the following:

- Use at least two calibration standards, and one calibration blank while performing initial calibration.
- While performing calibration verification checks, use calibration standards from a different vendor.
- Analyze a calibration blank before each run.
- Run interference check standards though the analyzer.
- Use continuing calibration standards to check the response of the instrument, as required, depending on the number of filters in a batch.
- A reagent blank should be tested.
- Laboratory control spikes should be used after each batch of samples.
- Analyze a matrix spike during each run.
- Test a duplicate or spike duplicate after testing a group of samples.

Sample Naming Convention

CAS will be using the following sample naming convention to create unique sample identification (ID) designations for each field sample collected during the S.H. Bell monitoring study. Samples will be identified using the following format:

AABBB-MMDDYY-V

Where:

- **AA** is the collection location; S1 for Site 1, S2 for Site 2, S3 for Site 3, and S4 for Site 4
- **BBB** is the instrument #, HV1 for High-Volume Sampler #1, and HV2 for High-Volume Sampler #2
- **MMDDYY** is the sample month, day, and year
- **V** is the type of sample; R indicates a routine sample and B indicates a trip blank

For example, S4HV1-030817-R represents a regular sample collected on March 8, 2017 at High-Volume Sampler # 1 at Monitoring Site S4.

B4.3 Equipment Testing, Inspection, and Maintenance

Specific tasks for periodic testing, inspection, and maintenance are required for the air sampling and monitoring equipment to provide sufficient quality control to remain within the manufacturer's operating specifications and ensure that the project quality goals are met. Initial system integration testing and verification of each instrument and sampler was performed at the CAS facility in Cleves, Ohio prior to deployment to the field. Additional setup tasks, operational checks and verifications were performed during commissioning of the particulate monitoring stations February 27-28, 2017. The maintenance tasks are summarized for each type of equipment below. These activities must be documented in the site visit logbook kept at each of the S.H. Bell Chicago monitoring locations. The field operations task leader should provide a schedule for all activities and checklists to the field technician. Common consumable parts are maintained in the field technician's possession at the S.H. Bell Chicago facility. Additional parts may be obtained from CAS facility located in Cleves, Ohio. Less common replacement parts and consumables are available for expedited delivery to site via common carrier.

PM10 Continuous Monitor Maintenance (BAM-1020)

Each BAM-1020 PM10 monitor requires periodic maintenance as specified by the manufacturer. Instrument Manuals are provided at each of the S.H. Bell Chicago monitoring sites, and detail the required periodic maintenance tasks (Refer to Section 7.1 of the BAM-1020 manual). To assure proper instrument functionality, the maintenance tasks and schedule must be followed and performed at prescribed intervals or in response to an

identified decrease in instrument performance. At minimum, the Continuous PM10 monitor requires the following maintenance:

- nozzle and vane cleaning,
- leak check
- one-point flow system check
- capstan shaft and pinch roller tire cleaning
- PM10 inlet particle trap cleaning
- inspection of filter tape
- checking error logs
- checking real-time clock

High-Volume PM10 Maintenance (TE 6070 DV-BL)

Maintenance of the High Volume PM10 Samplers, TE-6070 DV-BL, is to be performed in accordance with the procedures outlined in in the Operations Manual (Refer to Routing Maintenance Section). Manufacturer prescribed routine maintenance includes the following items (Refer to Sampler Operation Section for procedures and maintenance tasks):

- inspection of all gaskets and seals
- inspection of filter screen and removal of any foreign objects
- inspection of filter media holder
- inspect elapsed time indicator
- clean any excess dirt

Additional quarterly maintenance includes:

- cleaning of the inlet and motor/housing gaskets

Meteorological System Maintenance

The operator must perform an inspection of the tower and associated equipment and perform maintenance activities regularly. The inspection should include verifying the functionality of the wind vane and anemometer and verifying that the temperature/pressure aspirator shield fin set is free from debris. A visual inspection of the signal cables and fastening hardware should be conducted at three-month intervals and during either a system calibration or audit.

B4.4 Acceptance Requirements for Supplies and Consumables

Instrument spare parts, replacement parts and consumables are obtained either directly from the original equipment manufacturer (OEM), authorized distributor, or from a scientific equipment/ materials vendor whose products meet or exceed the OEM specifications or are commonly available (i.e. silicone grease). Contact the CAS Service Department for any parts and/or consumables associated with the PM10 monitoring instrumentation.

B5 Instrument Calibration and Frequency

This section describes the calibration methodology and frequency for each type of measurement conducted in the S.H. Bell PM10 monitoring network.

B5.1 Calibration Requirements for PM10 Continuous Monitors (BAM-1020)

Each BAM-1020 unit deployed to the field carries a factory calibration. Copies of the Certificate of Calibration are included in the 3-ring binders at each of the S.H. Bell Chicago monitoring sites.

During the first quarterly maintenance, the BAM-1020 is subjected to the Background Zero Test (BKGD). The zero-correction check is a 72 hour test utilizing a zero-filter kit installed in place of the PM10 sample inlet heat. Refer to Manual for detailed procedure. Upon completion of the BKGD, a new zero offset value is updates in the monitor's firmware. Subsequent BKGD tests are performed during the Annual Service visits or after major repairs but not less frequently than every 12 months.

Annual Three Point Flow System Calibration. All flow calibrations require a traceable reference flow meter and must include measurements for flow, temperature and pressure in one unit. Each flow calibration process should include an initial leak check, nozzle and vane cleaning, final leak check, three-point flow check (15.0, 18.4 and 16.7 LPM) and calibration if required. Refer to Manual Sections 5.4 - 5.8 for procedures.

The Filter Relative Humidity (RH), Filter Temperature Sensor Test and Smart Heater Test should be performed annually. Refer to Instrument Manual for procedures.

Additional checks include the Beta detector count rate and dark count test check, zero background check, span foil check and should be performed annually.

Factory recalibration is not required except for units sent in for major repairs.

B5.2 Calibration Requirements for High-Volume PM10 Samplers (TE 6070 DV-BL)

Flow Verification/Calibration of the TE-6070DV-BL is to be performed upon initial installation, then quarterly and after any motor maintenance.

The TE-5028 is the preferred method to calibrate PM10 High Volume Air Samplers. It simulates change in the resistance by rotating the knob on the top of the calibrator. The infinite resolution lets the technician select the desired flow resistance. The TE-5028 calibration kit includes: 30" slack tube water manometer, adapter plate, 3' piece of tubing, and TE-5028A orifice with flow calibration certificate. Each annual calibration consists of five points, of which three must be within 36 to 44 CFM.

After calibration, the calculated % difference of calibrator versus sampler flow rates must be within +/-4%. Refer to Sampler Manual, Calibration Procedure for TE-6070DV-BL for complete calibration procedure, including the initial leak check requirement.

B5.3 Calibration Procedures for Meteorological Monitors

Meteorological sensors are calibrated in accordance with the EPA guidance and performed not less frequently than annually. Verifications and Calibrations will be performed in accordance with the manufacturer procedures as listed in the sensor manuals. Additional calibrations will be performed following any sensor repair or replacement.

B6 Data Acquisition Requirements

The BAM-1020 instruments produce signals which are transmitted to the Agiliaire 8872 data acquisition system via radio modem, where the signals are digitized and converted to engineering units and stored in electronic memory. The BAM 1020 units are polled hourly by the Agilaire 8872 data acquisition system located at S3. The data is then polled hourly via the AirVision server, housed at the CAS facility in Cleves, Ohio.

Data collected from S.H. Bell Chicago will be reviewed daily. Computerized inspection and visual inspection of these data will be performed daily using AirVision software. Values that fall outside of prescribed limits (Tables B-6, B-7, and B-8) will be evaluated by a data reviewer and corrections to data will be documented. Abnormal data values or problems will be reported as soon as possible to the CAS Project Manager who will initiate corrective action and determine if a special site visit is required.

Table B-6. Critical Criteria for PM10 Monitoring

Requirement	Frequency	Acceptance Criteria	Reference	Action
PM10 Continuous (BAM-1020)				
Sampling Period	Every 24 hours of operation	1440 minutes ± 60 minutes midnight to midnight local standard time	40 CFR Part 50, App. J Section 9.15	Verify prior to sampling
One Point Flow Rate Verification	1/month	≤±7% of transfer standard	40 CFR Part 58, App. A Section 3.2.3 3) Method 2.10 Table 3-1	If values outside acceptance criteria, leak-check/recheck flow
PM10 Filter-Based (TE 6070 DV-BL)				
Sampling Period	All filters	1440 minutes ± 60 minutes midnight to midnight local standard time	40 CFR Part 50, App. J Section 7.1.5	Verify prior to sampling
One Point Flow Rate Verification	1/3 months	≤±7% of transfer standard and 10% from design	40 CFR Part 58, App. A Section 3.2.3 3) Method 2.11 sec 3.5.1, Table 2-1	If values outside acceptance criteria, inspect/recheck flow

Table B-7. Operational Criteria for PM10 Monitoring

Requirement	Frequency	Acceptance Criteria	Reference	Action
PM10 Continuous (BAM-1020)				
System Leak Check	Within 5 days of beginning sampling; 1/month	1.0 SLPM	Method 2.11 sec 2.3.2	Check O-Rings Check Vacuum line to pump Inspect Nozzle
Multi-Point Flow Rate Verification	1/year following startup	3 of 4 cal points within + 10% of design	40 CFR Part 50 App J sec 8.0 2 and Method 2.10 Sec 2.2.4	If values outside acceptance criteria, leak-check/recheck
Semi-Annual Flow Rate Audit	1/6 months	16.67 SLPM ± 10%	40 CFR Part 58, App A, sec 3.2.4 and Method 2.10 Sec 7.1.5	Check O-Rings Check Vacuum line to pump Inspect Nozzle
Inlet/Downtube Cleaning	1/3 months	Clean	Method 2.10 sec 6.1.2	
PM10 Filter-Based (TE 6070 DV-BL)				
Multi-point flow rate Verification/Calibration	1/yr	3 of 4 cal points within + 10% of design	1, 2 and 3) Method 2.11 sec 2.3.2	Points outside acceptance criteria are repeated. If still outside, consult manufacturer's manual
Field Temp M-point Verification	at installation, then 1/yr	+ 2°C	1,2 and 3) Recommendation	
Semi Annual Flow Rate Audit	1/6 mo	+ 7% of transfer standard and 10% from design	1 and 2) 40 CFR Part 58, App A, sec 3.3.3 3) Method 2.11 sec 7 Table 7-1	Tighten VFC device to blower. Check for leaks at the orifice plate
Maintenance of Impactor Plate	1/month	Clean/Re-grease	Manufacturer recommendation	
Manufacturer-Recommended Maintenance	per manufacturers' SOP	per manufacturers' SOP	NA	

Table B-8. Systematic Criteria for PM10 Monitoring

Requirement	Frequency	Acceptance Criteria	Reference	Action
PM10 Continuous (BAM-1020)				
Sampler/Monitor	NA	Meets requirements listed in FRM/FEM/ARM designation	40 CFR Part 58 App C Section 2.1 NA 40 CFR Part 53 & FRM/FEM method list	
Siting	1/year	Meets siting criteria or waiver documented	40 CFR Part 58 App E, sections 2-5 Recommendation 40 CFR Part 58 App E, sections 2-5	
Data Completeness	24-hour quarterly	23 hours > 75%	Recommendation 40 CFR Part 50 App. K, sec. 2.3	
Reporting Units	all filters	µg/m3 at standard temperature and pressure (STP)	40 CFR Part 50 App K	
Verification/Calibration Standards and Recertification		*All standards should have multi-point certifications against NIST Traceable standards*		
Flow Rate Transfer Std.	1/yr	+ 2% of NIST-traceable Std.	1,2 and 3) 40 CFR Part 50 App J sec 7.3	
Field Thermometer	1/yr	+ 0.1° C resolution, + 0.1° C accuracy	1,2 and 3) Method 2.10 section 1.1.2	
Field Barometer	1/yr	+ 1 mm Hg resolution, + 5 mm Hg accuracy	1,2 and 3) Method 2.10 section 1.1.2	
Clock/timer Verification	1/6 mo	15 min/day	1,2 and 3) Method 2.10 sec 9	

Table B-8. Systematic Criteria for PM10 Monitoring (Continued)

Requirement	Frequency	Acceptance Criteria	Reference	Action
PM10 Filter-Based (TE 6070 DV-BL)				
Sampler/Monitor	NA	Meets requirements listed in FRM/FEM/ARM designation	40 CFR Part 58 App C, Section 2.1 NA 40 CFR Part 53 & FRM/FEM method list	
Siting	1/year	Meets siting criteria or waiver documented	40 CFR Part 58 App E, sections 2-5 Recommendation 40 CFR Part 58 App E, sections 2-5	
Data Completeness	quarterly	> 75%	1,2 and 3) 40 CFR Part 50 App. K, sec. 2.3b & c	
Reporting Units	all filters	µg/m3 at standard temperature and pressure	1,2 and 3) 40 CFR Part 50 App K sec. 1	
Precision				
Single analyzer	1/3 mo.	Coefficient of variation (CV) < 10% > 15 µg/m3	1,2 and 3) Recommendation	
Single analyzer	1/ yr	CV < 10% > 15 µg/m3	1,2 and 3) Recommendation	
Verification/Calibration Standards and Recertification		*All stds should have multi-point certifications against NIST Traceable stds*		
Flow Rate Transfer Std.	1/yr	+ 2% of NIST-traceable Std.	40 CFR Part 50, App.J sec 7.3 Method 2.11 Sec 1.1.3 40 CFR Part 50, App.J sec 7.3	
Field Thermometer	1/yr	+ 0.1° C resolution, + 0.5° C accuracy	1,2 and 3) Method 2.11 Sec 1.1.2	
Field Barometer	1/yr	+ 1 mm Hg resolution, + 5 mm Hg accuracy	1,2 and 3) Method 2.11 Sec 1.1.2	
Clock/timer Verification	4/year	5 min/mo	recommendation	

B7 Data Management

The proper management of all data is critical to assuring the quality and usability of the monitoring results. As such, procedures have been implemented to ensure robust data acquisition, validation, reduction, reporting, and storage of electronic data. PM10 monitoring data will be recorded and stored at the site using an Agilaire Model 8872 data logger. PM10 data will be retrieved from the monitoring site hourly via internet connection to the CAS AirVision file server. In addition, the monitoring site can be called from any computer having the correct software and the IP address and appropriate credentials.

All electronic calculations and statistical analyses will be performed using standard software (Microsoft Excel), Air Vision, and the software associated with the Agilaire Model 8872 data logger. All project documentation, records, data, and reports will be stored for at least five years following project completion. The data are stored on the server at Consolidated Analytical Systems which are backed up nightly and are archived on and offsite.

PM10 data will be reviewed routinely by the CAS Data Manager assigned to this project. The CAS Data Manager reports directly to the CAS Project Manager. These data will be subjected to several levels of quality control, validation and quality assurance as discussed in Section D. Validated data are compiled into the final database for further analysis and report preparation. The final database is processed and stored on the Consolidated Analytical Systems server and then archived on various storage media and maintained in duplicate in more than one location for protection.

The Data Manager will archive data on the network of Consolidated Analytical Systems and on secured servers which are backed up nightly and archived on and off-site.

PM10 Continuous Monitor (BAM-1020) Data Reporting

The PM10 hourly concentrations from continuous monitors will be reported on a monthly basis in accordance with the USEPA Region 5 RFI dated March 9, 2015 (USEPA, 2015, Appendix B, 18), within 14 days of the end of the month in which it was collected (i.e., continuous data collected March 1-31, 2017 will be reported by April 14, 2017.

High-Volume PM10 (TE 6070 DV-BL) Data Reporting

Reporting of the data from the PM10 filter-based samplers which undergo gravimetric analysis and determination of lead and toxic metals specified in the USEPA Region 5 RFI dated March 9, 2015 (USEPA, 2015, Appendix B, 4.e), will be in the format submitted by the contract laboratory.

Below is an example timeline detailing the sample collection and reporting process for filter-based samples. Please note that sampler pick-up for the High-Volume PM10s can vary by 2 days (e.g., if the sampler finishes collecting on a Friday at Midnight, the filter pick up will not be until Monday morning based on S.H. Bell's normal business operation hours).

- Days 0-6 - Samples are collected from S4HV1 and S4HV2 in accordance with the USEPA 3-day sampling schedule (Appendix C)
- Day 7 - On the first business day following the completion of the sampling events, the two samples are collected (one from S4HV1 and one from S4HV2).
- Day 8 - Samples are shipped to Intermountain Laboratories in Sheridan, Wyoming
- Day 9 - Transport to laboratory
- Day 10 - Laboratory check in
- Day 11-12 - Filter conditioning (pre-gravimetric analysis)
- Day 13-18 - ICP/MS analysis
- Day 19-20 - Report preparation by the laboratory
- Day 20-25 - CAS receipt and review and final QA/QC of the data
- Day 26 – Reporting*

*Note: Date received after the 26th will be included with the high-volume data for the following month.

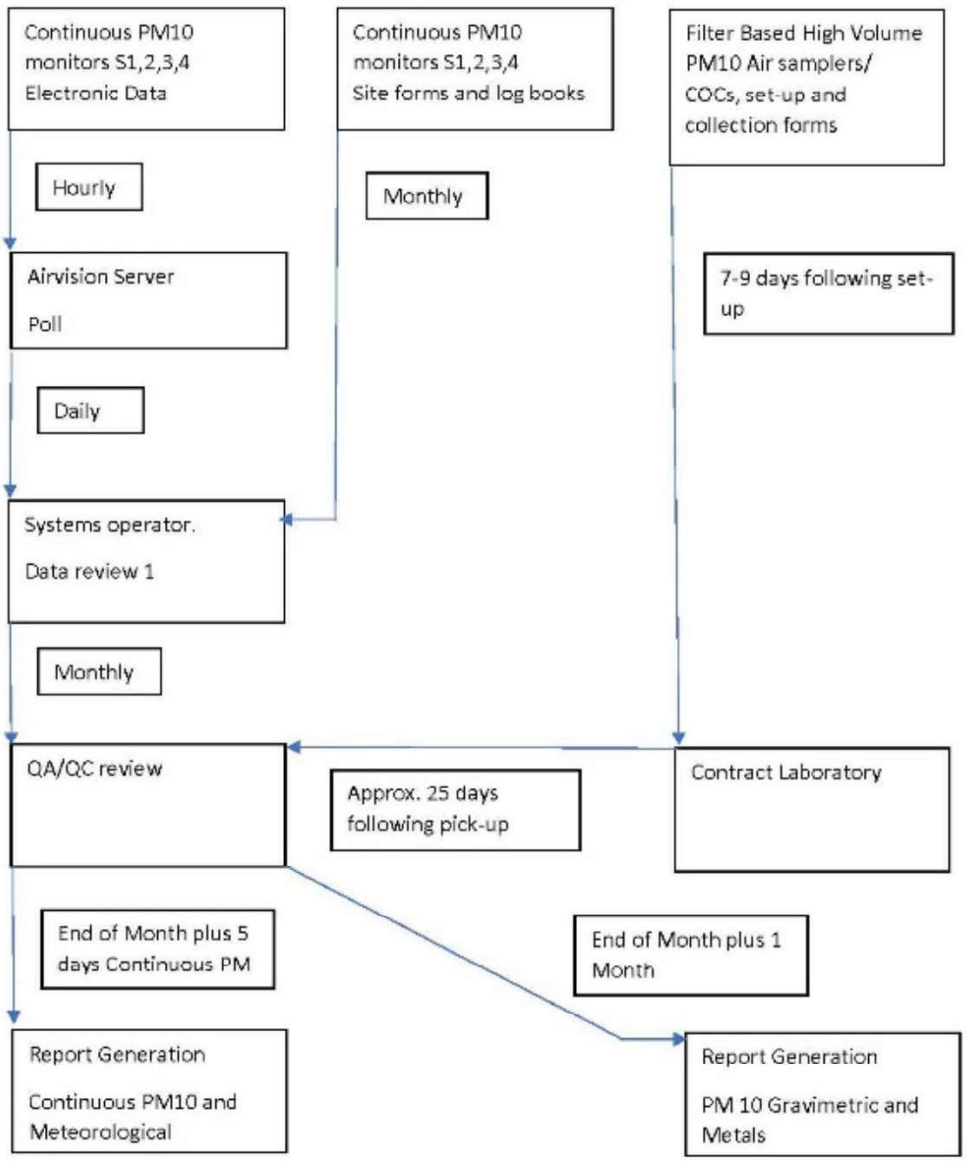
The appropriate reporting submittal schedule would be

- April 14, 2017 – Continuous PM10 data (March 1-31, 2017 sampling)
- May 1, 2017 – High-Volume PM10 data (March 1-31, 2017 sampling)
- May 14, 2017 – Continuous PM10 data (April 1-30, 2017 sampling)
- June 1, 2017 – High-Volume PM10 data (April 1-30, 2017 sampling)
- June 14, 2017 – Continuous PM10 data (May 1-31, 2017 sampling)
- June 1, 2017 – High-Volume PM10 data (May 1-31, 2017 sampling)

Data may also be marked with a qualifier code (Null Code) to denote suspect or invalid data if necessary.

Figure B-4 presents the data flow path for collecting, storing, and managing all data generated in the network.

Figure B-4. Data Management Tasks for S.H. Bell Chicago Monitoring Network



C. ASSESSMENT AND OVERSIGHT

C1 Assessment and Response Actions

The project team includes a quality assurance (QA) specialist who is responsible for independent assessment of the measurement efforts. This individual may be part of the same corporate organization as the project team, but performs no duties or holds no interests in the operation of any of the monitoring sites and networks that undergo audits. Assessments conducted for this project are divided into two categories: Technical Systems Audits and Performance Evaluation Audits. Technical audits qualitatively document the degree to which the procedures and processes specified in the QAPP are followed. Performance evaluations quantitively test the ability of a measurement system to obtain acceptable results. Both provide information regarding the compliance of environmental data collection efforts as described in the QAPP. All performance and technical systems audits are conducted following the guidance documents in the "EPA Quality Assurance Handbook" series, Volumes I, II, and IV.

C1.1 Technical Systems Audits

Technical Systems Audits (TSAs) are conducted to determine the project personnel and equipment are functioning as prescribed in the QAPP. TSAs are performed onsite and may examine facilities, equipment, personnel, training, procedures, record keeping data validation, data management and analysis of a measurement system. The audit is conducted employing a checklist as a guide to the major topics to be assessed, and the auditor is free to allot greater amounts of time to any particular area as needed. A checklist is prepared in advance of the audit and is based on information presented in the QAPP and the guidance of the EPA QA Handbook series (USEPA, 2000).

From this assessment, the auditor is able to determine the level of adherence to the specifications relating to quality assurance objectives detailed in the QAPP. This review includes traceability documentation for standards and test equipment used to conduct quality control checks on pollutant monitors and meteorological sensors. Where the specification appears incomplete or inadequate, the auditor should be able to apply EPA guidance document information and personal experience in assessing whether the quality of the monitoring activity will produce defensible data. An example TSA field checklists for a BAM-1020 is presented in Figure C-1.

Figure C-1. Example TSA Checklist for BAM-1020

CONSOLIDATED ANALYTICAL SYSTEMS

BAM-1020 Audit Report

Customer	
Instrument	
ID/Serial No.	

Audit Performed by	
Date	
Location	

Flow Audits

Standard Used	Model	Serial Number	Calibration Date
Flow Reference Standard			
Temperature Standard			
Barometric Pressure Standard			

	as found	*as left*
Leak Check Value		

	as found		*as left*		N/A
	BAM	Ref. Std.	BAM	Ref. Std.	
Ambient Temperature					
Barometric Pressure					
Flow Rate (Actual Volumetric)					
Flow Rate (EPA Standard)					

Mechanical Audits

Note: Mark as found and/or as left box to reflect actions performed.

	as found	*as left*	
Pump muffler unclogged			
Sample nozzle clean			
Tape support vane clean			
Capstan shaft clean			
Rubber pinch rollers clean			
Chassis ground wire installed			N/A
PM10 particle trap clean			
PM10 drip jar empty			
PM10 bug screen clear			
PM2.5 particle trap clean			
Inlet tube water-tight seal OK			
Inlet tube perpendicular to BAM			

Figure C-1. (continued)

CONSOLIDATED ANALYTICAL SYSTEMS

BAM-1020 Audit Report

Setup and Calibration Values

Parameter	Expected	Found
Clock Time/Date		
RS-232 Baud Rate	9600	
STATION #		
RANGE (mg)	0 - 1.000 mg	
BAM SAMPLE		
MET SAMPLE		
OFFSET		
CONC UNITS	mg/m3	
COUNT TIME (min)		
FLOW RATE		
CONC TYPE	STD	
FLOW TYPE	Actual	
Cv		
Qo		
ABS		
µ sw		
K Factor		
BKGD		
STD TEMP (°C)	-40 °C to 55 °C	
HEATER	Auto	
e1		
Errors	N/A	
AP		
FR1		
FRh		
Password	f1 f2 f3 f4	
Cycle Mode	Standard	
RH Control	yes	
RH Setpoint (%)		
Datalog RH	yes	
Delta-T Control	no	
Delta-T Setpoint (°C)		
Datalog Delta-T	no	

Figure C-1. (continued)

CONSOLIDATED ANALYTICAL SYSTEMS

BAM-1020 Audit Report

Analog Voltage Output Audit — Relevant? No

DAC Test Screen	BAM Voltage Output (Volts)	Logger Voltage Input (Volts)
0.000 Volts		
0.500 Volts		
1.000 Volts		

Membrane Audit

LAST m (mg)	
ABS (mg)	
Difference (mg)	0
% Difference	#DIV/0!

Flow Control Range

Flow Setpoint	BAM Flow
15.0 LPM	
16.7 LPM	
18.4 LPM	

Last Six Errors in BAM-1020 Error Log

	Error	Date	Time
1			
2			
3			
4			
5			
6			

Notes

Recommendations

Signatures — Date

Service Technician		
Reviewer		

C1.2 Performance Evaluation Audits

Continuous PM10 monitor and FRM sampler performance audits consist of a leak check, a flow rate measurement accuracy check, and verification of the temperature and pressure transducer measurement accuracy (for continuous monitors).

Performance audits for meteorological sensors are accomplished by direct comparison with an audit standard. For the wind direction sensor, the output of the sensor with the vane turned to a series of known directions is assessed, as is the orientation of the vane with respect to true north. The wind speed sensor is tested using a traceable certified motor drive unit. The ambient temperature and barometric pressure audits are conducted using collocated audit standards. A digital thermistor unit with certified traceability is used for temperature and a traceable barometer is used to test the site pressure transducer.

C2 Reports to Management

Reports for field performance and technical systems audits include a statement of the scope of the audit, summary presentation of results, and a listing of specific observations or findings related to the specifications under review. The field data and traceability documents for each audit standard employed are included. The auditor should always provide the field technician and/or the operations task leader a list of preliminary findings and recommendations during a debriefing meeting held at the conclusion of the audits. If significant deficiencies are determined that impact the ability of the system to properly function, the CAS Project Manager will be notified immediately. The CAS Project Manager will notify S.H. Bell representatives of the situation. A formal report should be provided to the project team within two weeks of completion of the audits. If there are no corrective action items, the auditor may close the audit. If further action is required, the audit will be classified as open pending verification that the corrective action was completed and the audit specification is being met. This information will be supplied to EPA as part of the standard reporting effort.

The designated project team member will have the responsibility for follow-up on audit recommendations and provide a written response to the findings and communicate the outcome of the corrective action effort. This is typically the Field Installation/Operations Manager for the field network. If the auditor does not receive a response or the response is inadequate, he must communicate the situation to the Project Manager.

Accuracy, precision, and completeness statistics are also computed for each measurement as applicable, per the quality assurance guidance in 40 CFR Part 58, Appendix A. A review of laboratory detection limits will be conducted to ensure that the reported limits meet the nominal values stated in this QAPP. The computations for flow rate measurement accuracy are as described in Volume II and the computations for meteorological measurement accuracy are as described in Volume IV of the EPA QA Handbook (USEPA, 2013 and USEPA, 2008, respectively).

Precision of PM10 measurements between the two methods that are employed is evaluated by least squares regression slope comparison of FEM and FRM PM10 data for sample data pairs <60µg/m3 at S.H. Bell Chicago monitoring Site S4, where these samplers are co-located. Laboratory analysis precision is compared to the method requirements for analytical duplicate analyses.

Completeness is calculated as the ratio of valid samples or hours of data compared to the total planned number of samples or operational hours of data attempted to be collected, expressed as a percentage.

Accuracy data are generated by the audit staff, as the spreadsheet results from measurement audits. Precision data are generated by the data management staff, in the form of statistics created from precision check data, or QC data from the subcontract laboratory as required by the analytical method. Completeness data are also generated by the data management staff, using an automated reporting script integrated into the RAQIS database.

D. DATA VALIDATION AND USABILITY

D1 Data Review, Validation, and Verification Requirements

Data review, validation, and verification procedures are presented in this section. Three types of data are collected for this project: continuous data from PM10 monitors, gravimetric and speciation data from manual samplers, and continuous data from meteorological sensors. Collected data is specific to the function of each device. Daily data review is the responsibility of the data management task leader for the project, in parallel with operations staff. The task leader also performs the routine monthly review and validation functions or delegates and supervises them.

In the event the daily data review indicates any irregularity or elevated result, the reviewer notifies the Project Manager and Data Management task leader. All abnormal data is to be be flagged. The data editor gathers all pertinent QC data for the date and time of the result of interest and reports to the project manager regarding the validity of the measured values. This typically occurs within 24 hours of first discovery of the situation. If the measurements are valid, the Project Manager immediately notifies S.H. Bell and provides associated meteorological data so that the client may investigate any potential events or sources that could have contributed to the result of interest.

Analytical laboratory reports for manual samples will be forwarded in electronic format and loaded into the database. The data management task leader is responsible for ensuring that the data are properly loaded and the supporting documentation is in the central project file.

Data will be declared invalid whenever documented evidence exists demonstrating that a monitor, sampler, or meteorological sensor was not collecting data under representative conditions or was malfunctioning. In rare cases where a consistent offset in continuous measurements can be verified, a factor may be applied to the averages in a data set with clear identification of the affected data. The project data documentation files will contain the supporting documentation of the use of and justification for the factor.

Data validation will be performed or supervised for each monthly data set by the data management task leader. The data management task leader will verify that the continuous monitor data and the meteorology measurement data are complete for the month, and then initiate the validation process.

All continuously generated data is stored on the data logging system (DAS) and is transferred via cellular modem during the daily automated network data retrieval routine. The activities involved in validation of the data in general include the following:

- Reviewing all site visit logs, calibration data, audit data, and other relevant information for indications of malfunctioning equipment or instrument maintenance/calibration events;
- Reviewing each laboratory report
- Reviewing all available BAM-1020 performance data
- Examining the continuous PM10 and meteorological data for outliers in the data, unusual persistence, unusually high rates of change, or measurement values that seem incongruous with normal measurement ranges and/or diurnal variations.

Any Suspect data is flagged and subject to further examination and review prior to being invalidated. The cause of abnormal or unavailable data is investigated and determined. The results from all quality control and quality assurance checks are evaluated to determine if the data quality objectives for each measurement are being met. Evidence of measurement bias, external influences on the representativeness of the data, or lack of reproducibility of the measurement data may be cause for the data to be considered invalid.

After the edit and validation review is complete, the editor returns a set of instructions to the data manager for application to the data set. The final edited version of the data is produced and peer reviewed to ensure that the edits were properly applied and that the validation process was consistent with project requirements and applicable guidelines. . A record of the edit instructions is retained in the project files, as is the final data product (Validated Data). Once the project manager has reviewed and approved the edited data set, it is released and reported to the client.

D2 Reconciliation with Data Quality Objectives

Periodically the project progress is evaluated to assess measurement goals and data collection efforts. This evaluation will occur at a minimum on an annual basis. Two areas will be reviewed: the performance of the project in respect to the quality goals specified in the QAPP and the limitations (if any) on the measurement data for their intended use.

D2.1 Assessment of Measurement Performance

As part of the annual review, the performance of the monitoring network will be assessed to determine if the requirements of the data user are met. (client and/or regulatory agency). Key indicators relating to precision, accuracy, completeness, representativeness, and comparability goals for the monitoring effort are evaluated. Specific quantitative measures of precision, accuracy, and completeness are defined for use in estimating the quality of the data set. These measures will be calculated and compared to the goals for the project.

D2.2 Data Quality Assessment

If any of the data quality measures deviate from established performance objectives (e.g., an audit result outside the project specification or a monthly data completeness less than the project goal) the data is not considered useless without further examination. The burden is on the project team to determine the extent to which a quality issue affects the related data, and ultimately how the issue impacts the fitness for use of the data.

A single isolated incident affecting the performance objective does not automatically render the data invalid, but rather reduces the confidence that the measurement is reliable, and indicates that increased quality control measures are needed. Any data confidence question should be appropriately flagged in the database. The data quality objectives are assessed periodically throughout the monitoring effort. A month in which the completeness statistic for a given site is below the objective is cause for concern and corrective action, but if the other months are within the objective the confidence in the complete data set should remain high.

Any potential limitations of the validated data set will be identified and communicated. The project team will present all known or potential limitations on the data with each data submittal, and will clearly flag any such data so that users may determine if the data should be used for a particular conclusion or decision.

E. REFERENCES

MetOne (2008), *BAM 1020 Particulate Monitor Operations Manual, BAM-1020-9800, Rev H*, MetOne Instruments, Inc., Grants Pass, OR.

S.H. Bell Company 2016 – 2017. "*Response to Request to Provide Information Pursuant to the Clean Air Act, Appendix B, PM10 Monitors and Siting, Proposed Monitoring Sites and Locations", January4, 2017.* (Monitoring Plan), *Amendments and revisions as noted below:*

- *01/11/2017 – USEPA Region 5 Email from Nicole Cantello "S.H. Bell Company Chicago, S. Avenue O Terminal – Monitoring and Siting" (request for clarification to proposed monitoring site selection)*
- *01/18/2017 – S.H. Bell Letter "Response to January 12, 2017 (sic) Email Request to Provide Justification for Monitor Site Selection"*
- *01/25/2017 – Conference Call between USEPA Region 5 and S.H. Bell (request for evaluation of PS2, PS2.1, PS2.2, and PS2.3)*
- *01/30/2017 – S.H. Bell S. Letter Response to January 12, 2017 (sic) Email Request to Provide Justification for Monitor Site Selection (Response to 01/25/2017 conference call requesting written evaluation of PS2, PS2.1, PS2.2, PS2.3)*
- *02/02/2017 – Conference Call between USEPA Region 5, the City of Chicago, S.H. Bell, Eckert Seamans Cherin & Mellot, LLC and Consolidated Analytical Systems, Inc. (request to re-evaluated alternative proposed monitoring site PS2.2)*
- *02/06/2017 – S.H. Bell Letter "Response to January 12, 2017 (sic) Email Request to Provide Justification for Monitor Site Selection" (Re-Evaluation of alternative proposed site PS2.2)*
- *02/07/2017 - USEPA Region 5 Email from Nicole Cantello "S.H. Bell Company Chicago, S. Avenue O Terminal – Monitoring and Siting" (request to locate proposed monitoring site PS2.2)*
- *02/10/20117 – S.H. Bell Letter "Response to February 7, 2017 Email Request to Locate Proposed Monitoring Site PS2.2"*
- *02/13/2017 – USEPA Region 5 Email from Nicole Cantello "S.H. Bell Company Chicago, S. Avenue O Terminal – Monitoring and Siting" (request to resubmit S.H. Bell siting plan for approval)*
- *02/24/2017 - USEPA Region 5 Email from Nicole Cantello "S.H. Bell Company Chicago S. Avenue O Terminal - QAAP" (providing links to be researched in the development of the site specific QAPP)*
- *03/02/2017 - USEPA Region 5 Email from Nicole Cantello "S.H. Bell Company Chicago S. Avenue O Terminal – Monitoring and Siting" (approval of the S.H. Bell Siting Plan)*
- *03/10/2017 – S.H. Bell Letter "Letter Updates to S.H. Bell's December 30, 2016 Response to: Request to Provide Information Pursuant to the Clean Air Act Appendix B, PM10 Monitors and Siting Proposed Monitoring Sites and Locations"*

(Tisch Environmental, Inc. 2010), *OPERATIONS MANUAL, TE-6000 Series TE-6070, TE-6070-BL, TE-6070D, TE-6070D-BL TE-6070V, TE-6070V-BL, TE-6070DV, TE-6070DV-BL, PM10, Particulate Matter 10 Microns and less High Volume Air Sampler, U.S. EPA Federal Reference Number RFPS-0202-141"*, Tisch Environmental, Inc., Village of Cleves, OH, August 10, 2010.

(USEPA, 1994) – United States Environmental Protection Agency, "*Quality Assurance Handbook for Air Pollution Measurement Systems, Volume 1 -- A Field Guide to Environmental Quality Assurance*", EPA-600/R-94/038a, April 1994.

(USEPA, 1999a) – United States Environmental Protection Agency, Office of Research and Development, Cincinnati, Ohio "*Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air, Compendium Method IO-2.1, Sampling of Ambient Air for Total Suspended Particulate Matter (SPM) and PM10 Using High Volume (HV) Sampler*", EPA/625/R-96/010a., June 1999.

(USEPA, 1999b) – United States Environmental Protection Agency, Office of Research and Development, Cincinnati, Ohio "*Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air, Compendium Method IO-3.1, Selection, Preparation and Extraction of Filter Material*", EPA/625/R-96/010a, June 1999.

(USEPA, 1999c) – United States Environmental Protection Agency, Office of Research and Development, Cincinnati, Ohio "*Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air, Compendium Method IO-3.5, Determination of Metals in Ambient Particulate Matter Using Inductively Coupled Plasma/Mass (ICP-MS) Spectroscopy*", EPA/625/R-96/010a., June 1999.

(USEPA, 2000a) – United States Environmental Protection Agency, "Guidance on Technical Audits and Related Assessments for Environmental Data Operations, EPA QA/G-7 Final", EPA/625/R-99/080a., January 2000.

(USEPA, 2000b) – United States Environmental Protection Agency, "*On-Site Meteorological Program Guidance for Regulatory Modeling Applications*", EPA 454/R-99-005, February 2000.

(USEPA, 2001) – United States Environmental Protection Agency, "*EPA Requirements for Quality Assurance Project Plans*", EPA QA/R-5, March 2001.,

(USEPA, 2002) – United States Environmental Protection Agency, "*EPA Guidance for Quality Assurance Project Plans*", EPA QA/G-5, EPA/600/R-02/009, December 2002.

(USEPA, 2008) – United States Environmental Protection Agency, "*Quality Assurance Handbook for Air Pollution Measurement Systems, Volume IV –Meteorological Measurements Version 2.0 (Final)*", EPA-454/B-08-002, March 2008.

(USEPA, 2013) – United States Environmental Protection Agency, "*Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II -- Ambient Air Quality Monitoring Program*", EPA-454/B-13-003, May 2013.

(USEPA, 2015) – United States Environmental Protection Agency Region 5, "*Request to Provide Information Pursuant to the Clean Air Act*", March 9, 2015.

Appendix A: Example Calibration Data Spreadsheets and Operator Checklists

CONSOLIDATED ANALYTICAL SYSTEMS

TE-6070V Sample Worksheet
(Using G-Factor)

Customer Co./Org.	S.H. Bell
Customer Contact	Jim Langbehn
Project No.	17-3007
Insturment Model	TE-6070V
ID/Serial No.	
Instrument Site	S4
Sample ID	
VFC G-Factor	0.0251890900

Date	
Technician Initials	
Location	Chicago, IL
Sample Start Date	
Sample End Date	
Service	Sample
Filter Number	

Ambient Conditions Set-up

Temp (deg F):			**Clean Filter ΔP**	
Ta (deg K):	255		**Barometric Press (in Hg):**	
Ta (deg C):	-17.8		**Pa (mm Hg):**	0.0

Ambient Conditions Sample

Temp (deg F):			**Loaded Filter ΔP**	
Ta (deg K):	255		**Barometric Press (in Hg):**	
Ta (deg C):	-17.8		**Pa (mm Hg):**	0.0

Calculate Total Air Volume Using G-Factor

Enter Average Temperature During Sampling Duration (Deg F)	
Average Temperature During Sampling Duration (Deg K)	255.22
Enter Average Barometric Pressure During Sampling Duration (In Hg)	
Average Barometric Pressure During Sampling (mm Hg)	0.00
Enter Clean Filter Sampler Inches of Water	
Enter Dirty Filter Sampler Inches of Water	
Average Filter Sampler (mm Hg)	#DIV/0!
Enter Total Runtime in Hours (xx.xx)	

Po/Pa #DIV/0!

Calculated Flow Rate (m3/min) #DIV/0!

Total Flow (m3) #DIV/0!

Calculations

Calibrator Flow (Qa) = 1/Slope*(SQRT(H20*(Ta/Pa))-Intercept)

Pressure Ratio (Po/Pa) = 1-Pf/Pa

% Difference = (Look Up Flow-Calibrator Flow)/Calibrator Flow*100

NOTE: Ensure calibration orifice has been certified within 12 months of use

CONSOLIDATED ANALYTICAL SYSTEMS

TE-6070V Sampler Calibration Worksheet
(Using G-Factor)

Customer Co./Org.	S.H. Bell
Customer Contact	Jim Langbehn
Project No.	17-3007
Insturment Model	TE-6070V
ID/Serial No.	P10244BL
Instrument Site	S4
VFC G-Factor	0.0251890900

Date	March 1, 2017
Technician Initials	
Location	Chicago, IL
Time of arrival	8:00
Time of departure	17:00
Service	Calibration

Ambient Conditions

Temp (°F)	44.2	**BP (in Hg)**	28.94
Ta (°K)	280	**Pa (mm Hg):**	734.3
Ta (°C)	6.8		

Calibration Orifice

Make	Tisch
Model	TE-5028A
Serial #:	3303
Qa Slope (m):	0.93771
Qa Int (b):	0.00061
Calibration Due Date:	03/01/17

Calibration Information

Run Number	Orifice "H2O	Qa m3/min	Sampler "H2O	Pf mm Hg	Po/Pa	Calculated m3/min	% of Diff
1	1.50	0.806	2.80	5.226	0.993	1.188	47.42
2	1.50	0.806	3.30	6.159	0.992	1.186	47.30
3	1.50	0.806	3.40	6.345	0.991	1.186	47.17
4	1.40	0.778	4.70	8.771	0.988	1.182	51.91
5	1.40	0.778	6.00	11.198	0.985	1.178	51.27

Calculate Total Air Volume Using G-Factor

Enter Average Temperature During Sampling Duration (Deg F)	62.00
Average Temperature During Sampling Duration (Deg K)	289.67
Enter Average Barometric Pressure During Sampling Duration (In Hg)	29.40
Average Barometric Pressure During Sampling (mm Hg)	746.76
Enter Clean Filter Sampler Inches of Water	13.30
Enter Dirty Filter Sampler Inches of Water	14.00
Average Filter Sampler (mm Hg)	25.47
Enter Total Runtime in Hours (xx.xx)	24.00
Po/Pa	0.966
Calculated Flow Rate (m3/min)	1.172
Total Flow (m3)	1687.68

Calculations

Calibrator Flow (Qa) = 1/Slope*(SQRT(H20*(Ta/Pa))-Intercept)
Pressure Ratio (Po/Pa) = 1-Pf/Pa
% Difference = (Look Up Flow-Calibrator Flow)/Calibrator Flow*100

NOTE: Ensure calibration orifice has been certified within 12 months of use

Appendix B: **Example Chain-of-Custody Form**

Inter-Mountain Labs

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

R 006583

All shaded fields must be completed.

This is a legal document; any misrepresentation may be construed as fraud.

#WEB 10101

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Consolidated Analytical Systems (CAS)	S.H. Bell - Chicago, IL		513-542-1200

Report Address	Contact Name
201 S. Miami Avenue Cleves, OH 45002	Meredith Cloran Email mcloran@cas-en.com Phone 513-542-1200

Invoice Address	Purchase Order #	Quote #
201 S. Miami Avenue Cleves, OH 45002	17-2507	CAS1702231

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	PM10 Gravimetric A	IO-3.1 for air filters	IO-3.5 Metals on air						REMARKS
							ANALYSES / PARAMETERS								
1		03/02/17		S4HV1-030217-R	FT	1	x	x	x						See Field Envelope
2		03/05/17		S4HV2-030517-R	FT	1	x	x	x						See Field Envelope
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☒ UPS	Water	WT	Check desired service	Compliance Monitoring ?	Y	Collected 03/07/17
☐ FedEx	Soil	SL	☒ Standard turnaround	Program (SDWA, NPDES,...)	CAA 114a	Field conditions at collection:
☐ USPS	Solid	SD	☐ RUSH - 5 Working Days	PWSID / Permit #		
☐ Hand Carried	Filter	FT	☐ URGENT - < 2 Working Days	Chlorinated?	N	
☐ Other	Other	OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab x	Client	

IML Air Science
555 Absaraka
Sheridan, WY 82801
(307) 674–7506
www.imlairscience.com

Particulate Sampler Field Envelope

Network _____ **Sampler ID** _____

Filter Number _____

Sample Date _____

Time Off _____

Time On _____

Run Time _____

Tech. _____

P_{STG}

ΔP on	ΔP off

units

Comments:

_____

_____

_____

_____

_____

Appendix C: **USEPA (3-day) Sampling Schedule, 2017**

EPA Sampling Schedule 2017

Important Dates

Notes

3-Day schedule is shown in orange, green, and purple

6-Day schedule is shown in green and purple

12-Day schedule is shown in purple

January

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

February

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

March

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

April

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

May

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

June

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

July

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

August

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

September

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

October

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

November

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

December

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Appendix D: **S.H. Bell Siting Plan**

January 4, 2017

United States Environmental Protection Agency, Region 5
Air and Radiation Division
Attn: Katharine Owens (Owens.katharine@epa.gov), Nicole Contello (Cantello.nicole@epa.gov), George T. Czerniak, and R5enforcement@epa.gov
77 W. Jackson Blvd
Chicago, IL 60604

RE: **S.H. Bell Company**
10218 South Avenue O
Chicago, Illinois 60617
Response to: Request to Provide Information Pursuant to the Clean Air Act
Appendix B, PM_{10} Monitors and Siting
Proposed Monitoring Sites and Locations

Dear Ms. Owens:

S.H. Bell is pleased to submit this response to USEPA Region 5 Air and Radiation Division's Request to Provide Information Pursuant to the Clean Air Act dated March 9, 2015. This response addresses Appendix B Items 2 and 3, PM_{10} Monitors and Siting.

PM_{10} MONITORS AND SITING

Appendix B, 2

Question: Within 30 days of receipt of this information request, SHB shall submit proposed monitoring site locations for continuous Federal Equivalent Method (FEM) real-time PM10 monitoring and Federal Reference Method (FRM) PM10 filter-based monitoring at the facility for EPA review and approval prior to establishing the monitoring sites.

Response: A site location and vicinity map of the S.H. Bell facility located at 10218 South Avenue O, Chicago, Illinois 60617 is attached as Figure 1. Proposed monitoring site locations for FEM real-time PM10 monitoring and FRM PM10 filter-based monitoring are shown on Figure 2. Rationale for site selection is detailed below. Historical wind rose data is included in Attachment 1.

Appendix B, 3

Question: Within 30 days of receipt of this request, SHB shall submit to EPA a map showing the property lines of the facility, the location of nearby residences and industrial properties and proposed locations of monitoring sites.

Response: A site location map of the S.H. Bell facility located at 10218 South Avenue O, Chicago, Illinois 60617 and the surrounding area (including nearby residences and industrial properties) is attached as Figure 1. Proposed monitoring site locations for FEM real-time PM10 monitoring and FRM PM10 filter-based monitoring are shown on Figure 2.

MONITORING SITE SELECTION RATIONALE

S.H. Bell has selected four proposed monitoring locations as shown on Figure 2. Proposed monitoring locations are identified as PS1, PS2, PS3, and PS4. The S.H. Bell facility has an existing meteorological tower, denoted as ESM on Figure 2. Each of the four proposed monitoring locations (PS1, PS2, PS3, and PS4) will have FEM real-time PM_{10} monitors. One of the four proposed monitoring sites, PS4, which is located at the furthest downwind location on the S.H. Bell property, will also have an FRM PM_{10} filter-based monitor. Meteorological data will be collected at the existing meteorological tower.

Probe siting information and site configuration for the proposed monitoring locations were selected in accordance with 40 CFR Part 58, Appendix E. Because of the urban nature of the S.H. Bell facility, particular attention is given to the following sections of the siting criteria:

- 2. Horizontal and Vertical Placement
  Microscale Pb, PM_{10}, $PM_{10-2.5}$, and $PM_{2.5}$ sites are required to have sampler inlets between 2 and 7 meters above ground level.

  The probe or at least 90 percent of the monitoring path must be at least 1 meter vertically or horizontally away from any supporting structure, walls, parapets, penthouses, etc., and away from dusty or dirty areas. If the probe or a significant portion of the monitoring path is located near the side of a building or wall, then it should be located on the windward side of the building relative to the prevailing wind direction during the season of highest concentration potential for the pollutant being measured.

- 4. Spacing From Obstructions
  a. Buildings and other obstacles may possibly scavenge SO_2, O_3, or NO_2, and can act to restrict airflow for any pollutant. To avoid this interference, the probe, inlet, or at least 90 percent of the monitoring path must have unrestricted airflow and be located away from obstacles. The distance from the obstacle to the probe, inlet, or monitoring path must be at least twice the height that the obstacle protrudes above the probe, inlet, or monitoring path. An exception to this requirement can be made for measurements taken in street canyons or at source-oriented sites where buildings and other structures are unavoidable.
  b. Generally, a probe or monitoring path located near or along a vertical wall is undesirable because air moving along the wall may be subject to possible removal mechanisms. A probe, inlet, or monitoring path must have unrestricted airflow in an arc of at least 180 degrees. This arc must include the predominant wind direction for the season of greatest pollutant concentration potential. For particle sampling, a minimum of 2 meters of separation from walls, parapets, and structures is required for rooftop site placement.

Table E-4 of Appendix E to Part 58 —Summary of Probe and Monitoring Path Siting Criteria (in particular Notes 3, 4, 5, and 8).

Pollutant	Scale (maximum monitoring path length, meters)	Height from ground to probe, inlet or 80% of monitoring path 1 (meters)	Horizontal and vertical distance from supporting structures 2 to probe, inlet or 90% of monitoring path1 (meters)	Distance from trees to probe, inlet or 90% of monitoring path 1 (meters)	Distance from roadways to probe, inlet or monitoring path 1 (meters)
SO_2 3 4 5 6	Middle (300 m) Neighborhood Urban, and Regional (1 km)	2-15	>1	>10	N/A.
CO 4 5 7	Micro [downtown or street canyon sites], micro [near-road sites], middle (300 m) and Neighborhood (1 km)	2.5-3.5; 2-7; 2-15	>1	>10	2-10 for downtown areas or street canyon microscale; ≤50 for near-road microscale; see Table E-2 of this appendix for middle and neighborhood scales.
O_3 3 4 5	Middle (300 m) Neighborhood, Urban, and Regional (1 km)	2-15	>1	>10	*See* Table E-1 of this appendix for all scales.
NO_2 3 4 5	Micro (Near-road [50-300 m])	2-7 (micro);	>1	>10	≤50 for near-road micro-scale.
	Middle (300 m)	2-15 (all other scales)			
	Neighborhood, Urban, and Regional (1 km)				*See* Table E-1 of this appendix for all other scales.
Ozone precursors (for PAMS) 3 4 5	Neighborhood and Urban (1 km)	2-15	>1	>10	*See* Table E-4 of this appendix for all scales.
PM, Pb 3 4 5 8	Micro, Middle, Neighborhood, Urban and Regional	2-7 (micro); 2-7 (middle $PM_{10-2.5}$); 2-7 for near-road; 2-15 (all other scales)	>2 (all scales, horizontal distance only)	>10 (all scales)	2-10 (micro); *see* Figure E-1 of this appendix for all other scales. ≤50 for near-road.

N/A – Not applicable

1 Monitoring path for open path analyzers is applicable only to middle or neighborhood scale CO monitoring, middle, neighborhood, urban, and regional scale NO_2 monitoring, and all applicable scales for monitoring SO_2, O_3, and O_3 precursors.

2 When probe is located on a rooftop, this separation distance is in reference to walls, parapets, or penthouses located on roof.

3 Should be greater than 20 meters from the dripline of tree(s) and must be 10 meters from the dripline when the tree(s) act as an obstruction

4 Distance from sampler, probe, or 90 percent of monitoring path to obstacle, such as a building, must be at least twice the height the obstacle protrudes above the sampler, probe, or monitoring path. Sites not meeting this criterion may be classified as middle scale (*see* text).

5 Must have unrestricted airflow 270 degrees around the probe or sampler; 180 degrees if the probe is on the side of a building or a wall.

6 The probe, sampler, or monitoring path should be away from minor sources, such as furnace or incineration flues. The separation distance is dependent on the height of the minor source's emission point (such as a flue), the type of fuel or waste burned, and the quality of the fuel (sulfur, ash, or lead content). This criterion is designed to avoid undue influences from minor sources.

7 For micro-scale CO monitoring sites, the probe must be >10 meters from a street intersection and preferably at a midblock location.

8 Collocated monitors must be within 4 meters of each other and at least 2 meters apart for flow rates greater than 200 liters/min or at least 1 meter apart for samplers having flow rates less than 200 liters/min to preclude airflow interference, unless a waiver is in place as approved by the Regional Administrator pursuant to section 3 of Appendix A.

SUMMARY

S.H. Bell looks forward to USEPA's review and approval of responses to Appendix B questions 2 and 3 and to installing, operating, and maintaining ambient monitoring sites at the facility upon your approval of the proposed plan. Should you have any questions about the proposed monitoring locations, please let me know.

CERTIFICATION

> I certify under penalty of law that I have examined and am familiar with the information in the enclosed documents, including all attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are, to the best of my knowledge and belief, true and complete. I am aware that there are significant penalties for knowingly submitting false statements and information, including the possibility of fines or imprisonment pursuant to Section 1(c)(2) of the Clean Air Act and 18 U.S.C. §§ 1001 and 1341.

Respectfully submitted,

John R. Bedeck
Project Manager & Dir. Of Quality
S.H. Bell Company

Prepared by:
Consolidated Analytical Systems, Inc.

Figure 1
Site Location and Vicinity Map
S.H. Bell Facility, 10218 South Avenue O, Chicago, Illinois 60617

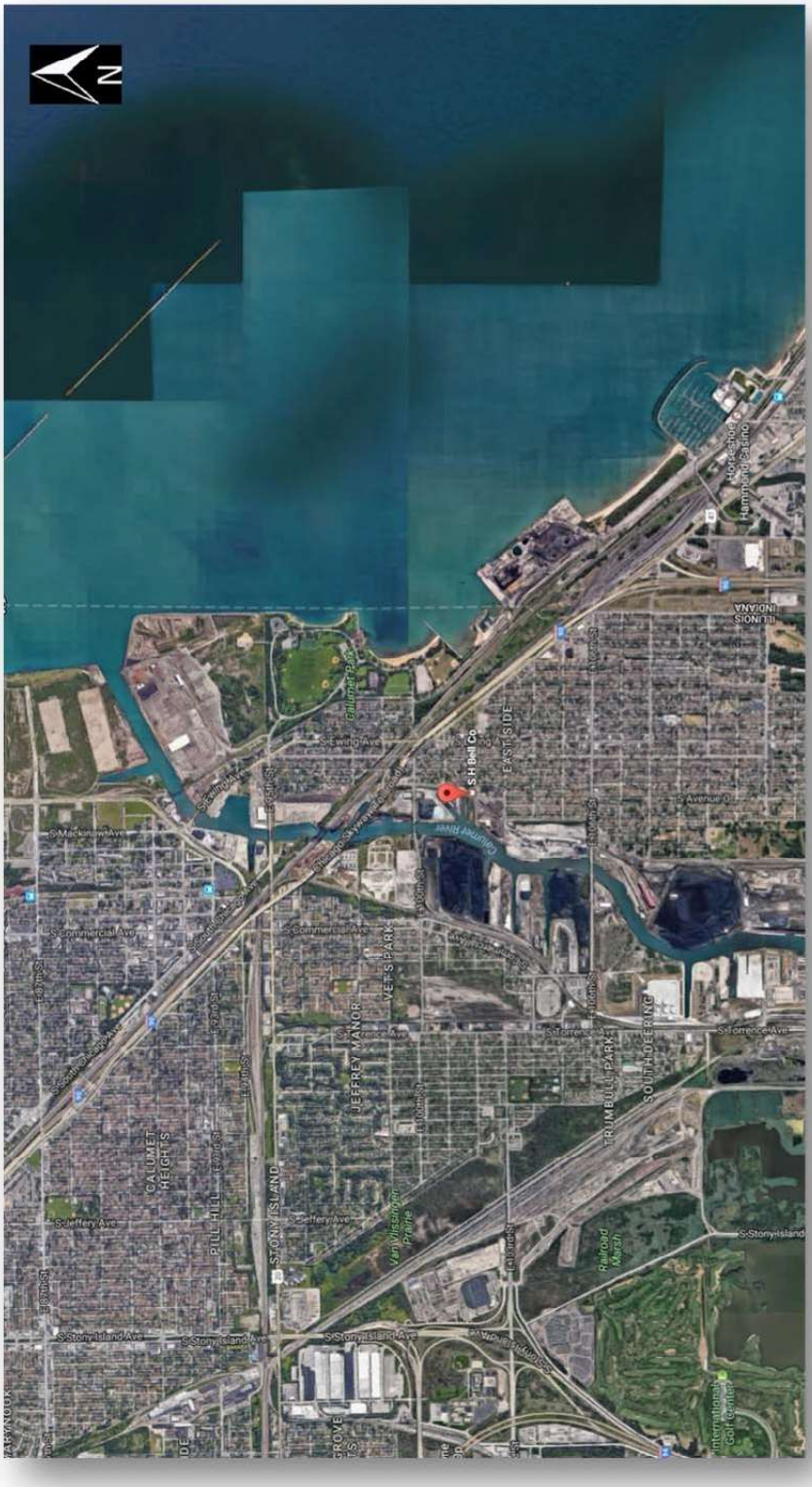
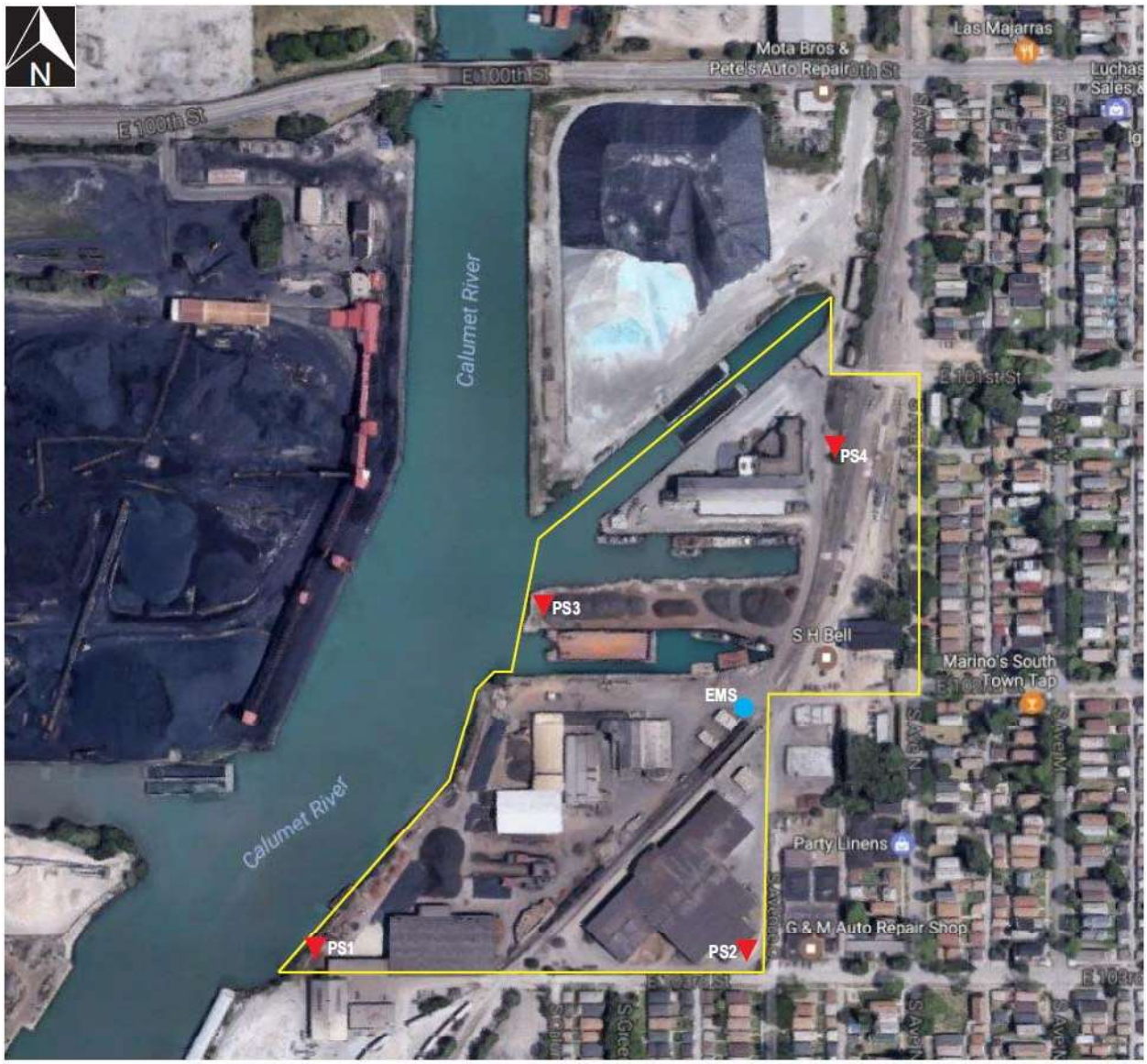
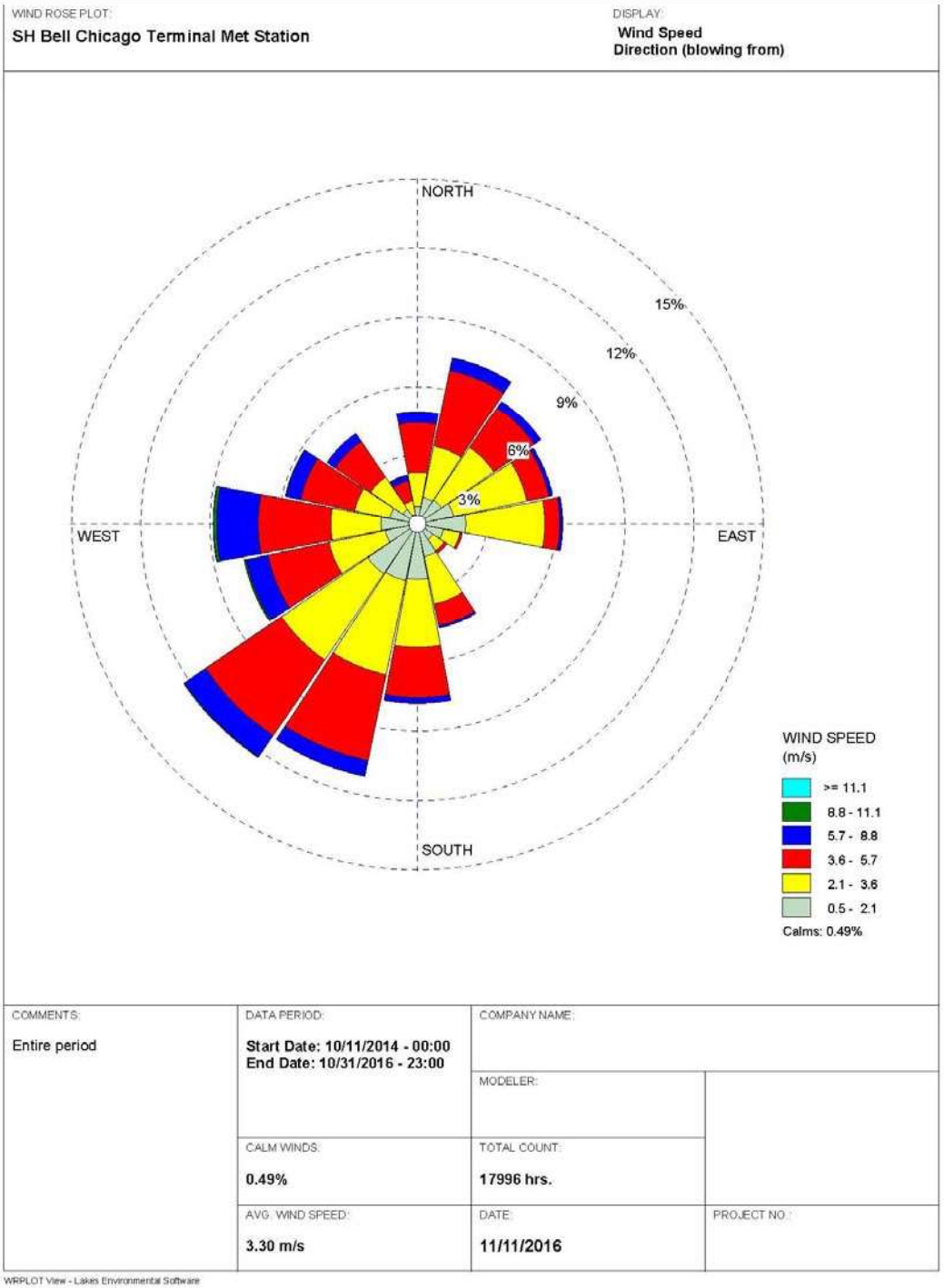


Figure 2
Proposed and Existing Monitoring Locations
S.H. Bell Facility, 10218 South Avenue O, Chicago, Illinois 60617



Site ID	Latitude	Longitude
PS1	41.708264	-87.544006
PS2	41.708291	-87.540184
PS3	41.710494	-87.542090
PS4	41.711527	-87.539628
EMS	41.709861	-87.539692

Attachment 1
Historical Wind Rose Data (October 2014 thru October 2016)
S.H. Bell Facility, 10218 South Avenue O, Chicago, Illinois 60617



SH BELL CO
HANDLING WITH CARE • LME APPROVED

January 18, 2017

United States Environmental Protection Agency, Region 5
Air and Radiation Division
Attn: Nicole Cantello (Cantello.nicole@epa.gov), George T. Czerniak, and R5enforcement@epa.gov
77 W. Jackson Blvd
Chicago, IL 60604

RE: **S.H. Bell Company**
10218 South Avenue O
Chicago, Illinois 60617
Response to January 12, 2017 Email Request to Provide Justification for Monitor Site Selection

Dear Ms. Cantello:

S.H. Bell is pleased to submit this response to USEPA Region 5 Air and Radiation Division's Request for clarifications to proposed monitoring site selection dated January 12, 2017. This response addresses questions posed in your email "S.H. Bell Company Chicago S. Avenue O Terminal - Monitoring and Siting" dated January 12, 2017.

Question: Could you provide a justification for your choice of location for each monitor site?

Response: The monitoring locations proposed were selected with two goals in mind: 1) meet USEPA siting criteria (40 CFR Part 58, Appendix E), and 2) collect data that provides an accurate representation of particulate matter (PM) concentrations across the site, with respect to predominant wind direction. The predominant wind direction in the vicinity of the site is from southwest to northeast – see attached Site Location Maps and historical wind rose data from October 2014 – October 2016. Proposed Site 1 (PS1) is proposed to be located at the southwesternmost corner (upwind) of the property in order to determine concentrations of PM that may be entering the site from offsite sources. The site is surrounded by industrial properties along the Calumet River. PS4 is proposed for the northeasternmost corner (downwind) of the property to most accurately reflect PM concentrations in air mass leaving the site; thereby helping determine impact to adjacent and surrounding properties and receptors. PS2 is located at the southeast corner of the property, nearest adjacent residential areas to measure potential impact to offsite receptors. Site PS3 was selected to provide 360 degrees of data capture given the other three proposed site locations.

Question: We view the location of SH Bell's main office to be a prime siting location and would like to understand why SH Bell did not propose that location. Could you please indicate whether SH Bell considered the main office site (which already has an electricity source) as a siting location for monitors?

Response: The location near the main office does not provide 270 degrees of clearance required to meet USEPA siting criteria. Additionally, several trees are located in this area and would require removal. The height of the trees and the effective drip line of the trees that are present both on and off SH Bell property would adversely affect air flow, which violates USEPA siting criteria. Also, a berm is located near the main office building which would adversely affect representative air flow from reaching the inlet to the PM monitor.

Question: Did SH Bell consider a site between the two buildings on the southern facility border? EPA's preference would be to merge the two monitors on the southern border and locate one monitor there, and to use the main office location as the site for one FRM monitor and one FEM monitor.

Response: Please see response to #1 above. Based on site configuration and historical wind rose data, SH Bell believes the most representative locations to monitor PM concentrations in air mass entering and exiting the site are at locations PS1 and PS4. The location on the southern property boundary is also located adjacent to an active rail line; therefore, this location was omitted from consideration as a monitoring site.

SUMMARY

S.H. Bell looks forward to USEPA's review and approval of responses to questions regarding monitoring site selection. Should you have any additional questions about the proposed monitoring locations, please let me know.

CERTIFICATION

I certify under penalty of law that I have examined and am familiar with the information in the enclosed documents, including all attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are, to the best of my knowledge and belief, true and complete. I am aware that there are significant penalties for knowingly submitting false statements and information, including the possibility of fines or imprisonment pursuant to Section 1(c)(2) of the Clean Air Act and 18 U.S.C. §§ 1001 and 1341.

Respectfully submitted,

John R. Bedeck
Project Manager & Dir. of Quality
S.H. Bell Company

Prepared by:
Consolidated Analytical Systems, Inc.

Figure 1
Site Location and Vicinity Map
S.H. Bell Facility, 10218 South Avenue O, Chicago, Illinois 60617

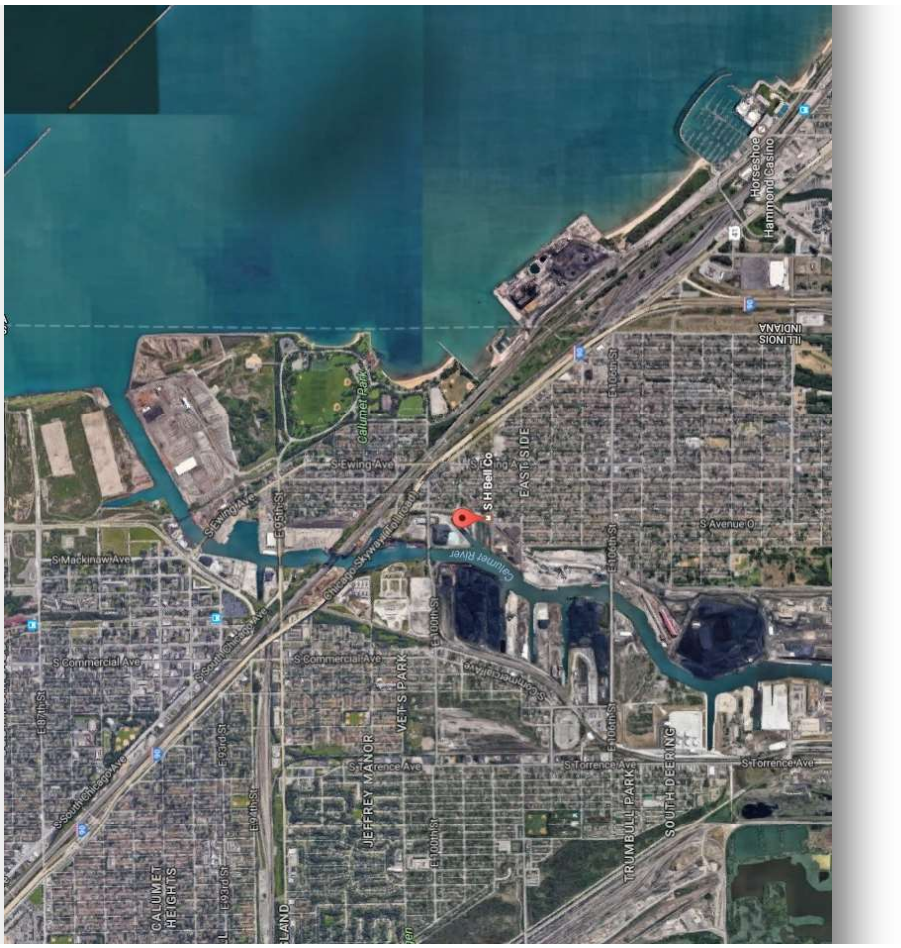
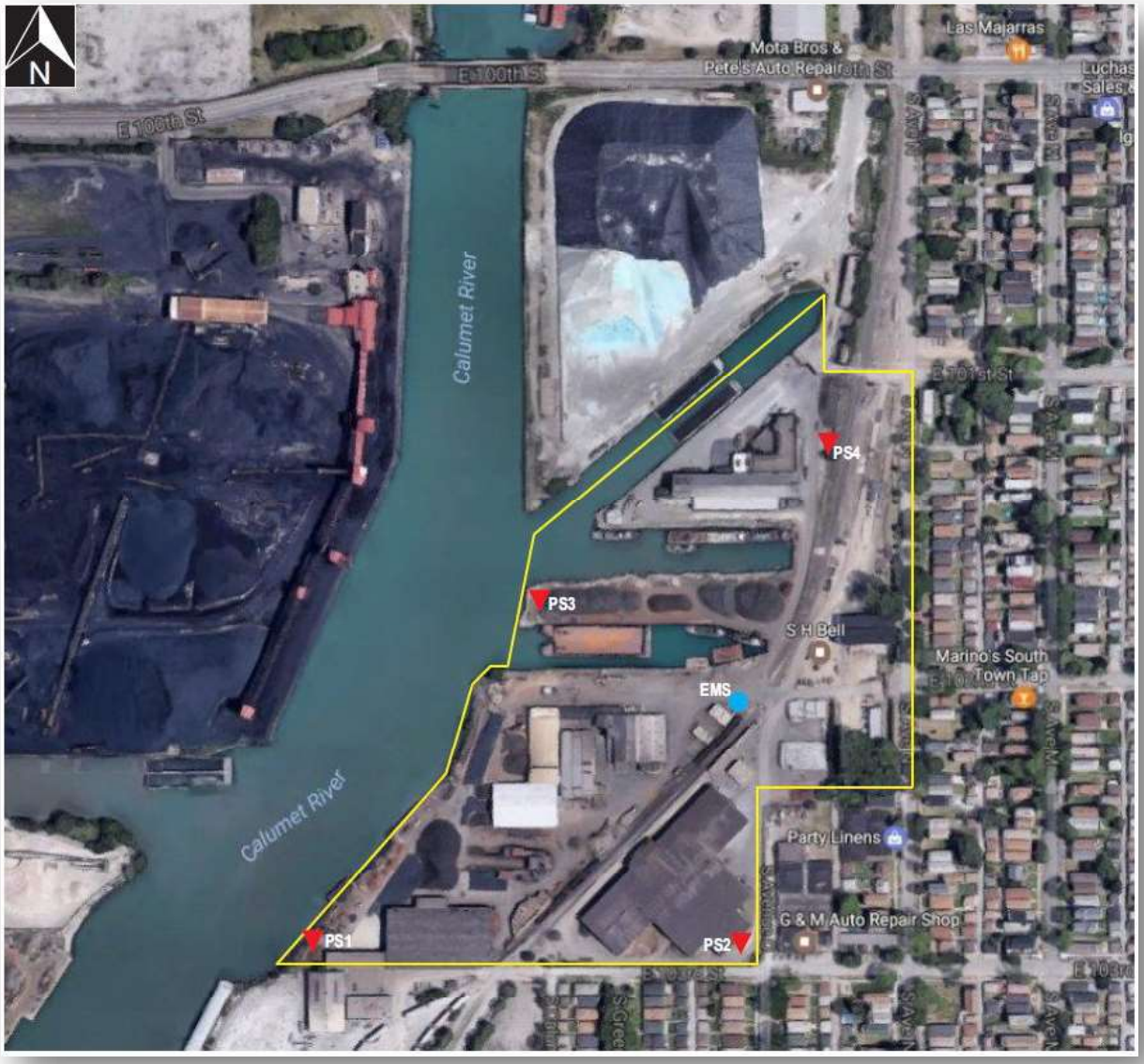
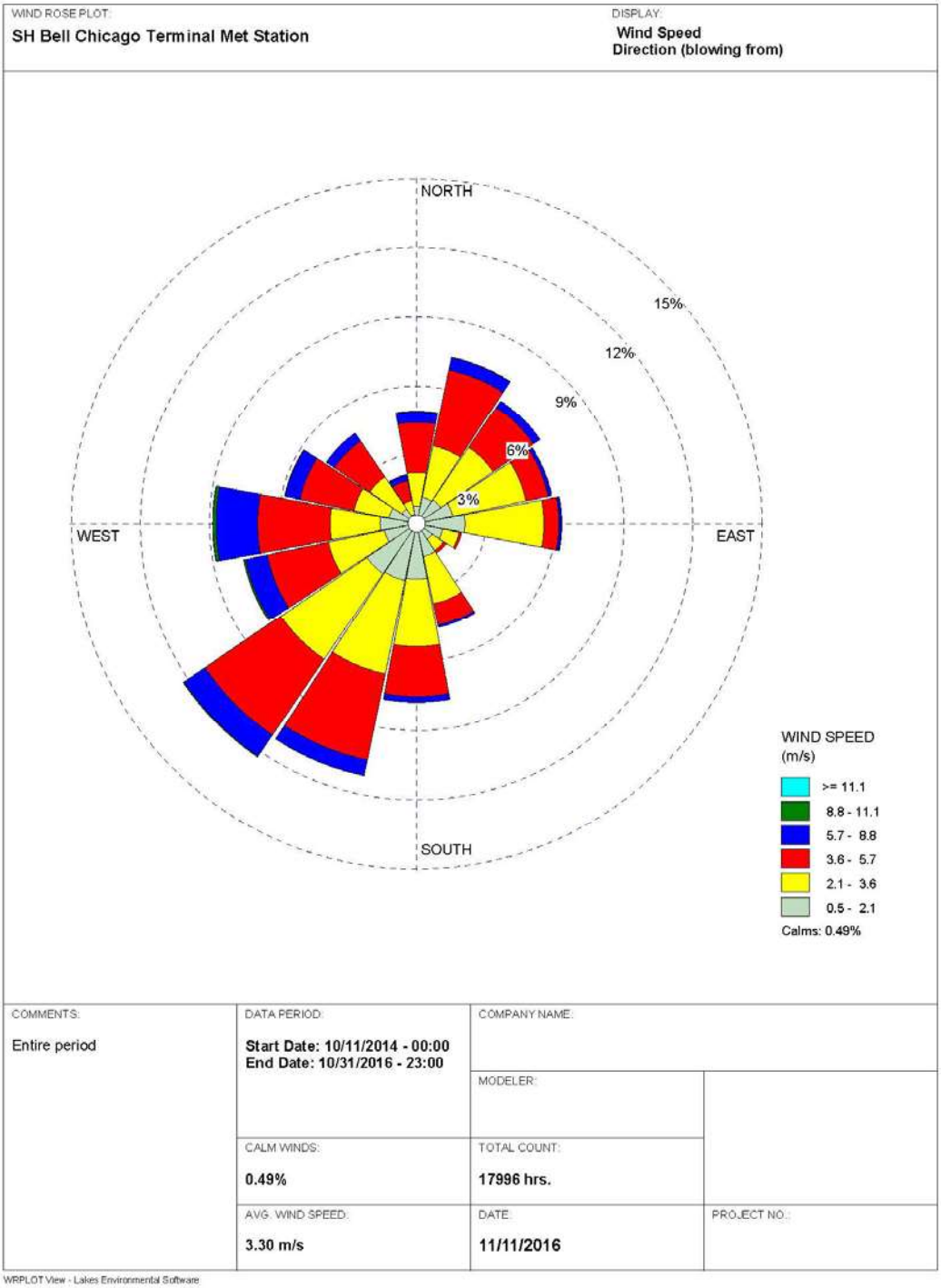


Figure 2
Proposed and Existing Monitoring Locations
S.H. Bell Facility, 10218 South Avenue O, Chicago, Illinois 60617



Site ID	Latitude	Longitude
PS1	41.708264	-87.544006
PS2	41.708291	-87.540184
PS3	41.710494	-87.542090
PS4	41.711527	-87.539628
EMS	41.709861	-87.539692

Attachment 1
Historical Wind Rose Data (October 2014 thru October 2016)
S.H. Bell Facility, 10218 South Avenue O, Chicago, Illinois 60617



SH BELL CO
HANDLING WITH CARE • LME APPROVED

January 30, 2017

United States Environmental Protection Agency, Region 5
Air and Radiation Division
Attn: Nicole Cantello (Cantello.nicole@epa.gov), George T. Czerniak, and R5enforcement@epa.gov
77 W. Jackson Blvd
Chicago, IL 60604

RE: **S.H. Bell Company**
10218 South Avenue O
Chicago, Illinois 60617
Response to January 12, 2017 Email Request to Provide Justification for Monitor Site Selection

Dear Ms. Cantello:

Per the conference call between USEPA Region 5 Air and Radiation Division and S.H. Bell on January 25, 2017, S.H. Bell and our contractors have completed an evaluation of the attributes of current Proposed Monitoring Site 2 (PS2) and three additional areas on the S.H. Bell property. Our evaluation is detailed below. Consideration was given to determine if a suitable monitoring site could be installed or developed at each of these sites consistent with USEPA siting criteria guidelines outlined in 40CFRPart 58, Appendix E. Alternative locations are named as follows, see attached Figure 1 for locations of the monitoring sites on the S.H. Bell property and Figures 2-5 for site layouts of each of the proposed sites :

1. PS2 is S.H. Bell's original proposed location for PS2
2. PS2.1 is the S.H. Bell site office
3. PS2.2 is an area north of the S.H. Bell high bay
4. PS2.3 is a bulk material storage area located approximately 100 feet west of the S.H. Bell site office. This site was not proposed as a monitoring location by Region 5, but was considered during our original evaluation of proposed site monitoring locations.

PS2.1 (Office Location/Figure 2):

The office location consists of an office trailer, associated gravel parking lot and wooded area. A gravel parking area is located adjacent to the west of the building. The parking area is bound to the west by a vegetated earthen berm. A densely wooded area is located adjacent to the south of the building. The property boundary is located just east of the office building. A gated entrance and road deck are adjacent to the north of the office building.

In order to meet the USEPA siting requirements for spacing from an obstruction and distance from a road surface, the only potential monitoring location at this site would be to the south of the office building, in the wooded area. S.H. Bell deemed this location unacceptable for several reasons:

1. Clearing of the site and the trees would be difficult due to the size of the trees as well as the location of the trees with respect to the road surface (S Ave N), which is located outside of the S.H. Bell property boundary. Additionally, the time required to complete the tree removal process would likely impact the operational date.
2. Based on the prevailing wind direction from the southwest, air to the inlet at this site would have to travel over the vegetated berm located west of the trees and office causing uplift of particulate matter, potentially severe enough to travel over the intake of the continuous particulate analyzer.
3. A brick structure is located offsite south of the trees that would restrict airflow from the primary wind direction.
4. The existing trees act as a vegetative barrier for particle matter exiting the property onto the surrounding receptors.

PS2.2 (North of High Bay/Figure 3)

The high bay is an approximately 40 foot high structure with associated parking and a road deck directly to the south, a road deck to the west, the property boundary to the east, trees directly to the north (on and off S.H. Bell property), and a narrow triangular mixed-use storage and parking area to the north.

S.H. Bell could not identify a location that meet the siting requirement for spacing from an obstruction and distance from a road surface. When evaluating this area, several key issues were considered, including:

1. The minimum site location distance from the building is approximately 68' (assuming 2 meter inlet height), assuming no additional obstructions
2. An offsite tree row parallel to S Ave N, runs north from the high bay to the facility entrance located near E 101st St. Tree heights in this area range 15 to 25 feet.
3. The exiting road deck runs from the Northwest corner of the high bay to the Northeast. Minimum site location would need to be 2 meters from this road surface.
4. An onsite berm parallel to S Ave N, runs north from the high bay to the facility entrance located near E 101st St.

PS2.3 (Bulk Material Storage Area/Figure 4):

The Bulk Material Storage Area location is a material storage area with a road deck directly to the west, a vegetated berm to the east, the S.H. Bell property boundary to the south, and a road deck to the north.

S.H. Bell could not identify a location that meets the siting requirement for spacing from an obstruction and distance from a road surface at this location. When evaluating this area, several key issues were considered, including:

1. The area is regularly used for bulk storage of materials being received, stored, and loaded.
2. The storage piles vary in height, affecting airflow, consistency, and direction
3. No reserved footprint for the siting location is present in the area

PS2 (Initial Proposed PS2/Figure 5):

S.H. Bell maintains the best cardinal point location for a southerly and easterly airflow is represented by the initially proposed PS2.

An additional site evaluation has confirmed this site has several key attributes that exceed minimum siting requirements, including:

1. The road surfaces near the site allow for a minimum clear distance of greater than 2 meters from the road deck located on S.H. Bell property, E 103rd, and S Avenue O.
2. The proposed location is approximately 60' from the nearby building which is approximately 20' high. Assuming a 2 meter inlet height, the site could be located approximately 28' from the building, assuming no additional obstructions.
3. No vegetative (i.e., vegetated berms or trees) or other obstructions are present that are not easily removed. (note: a small vegetative obstruction will be removed along the fence line).

SUMMARY

S.H. Bell looks forward to USEPA's review and approval of responses to questions regarding monitoring site selection. Should you have any additional questions about the evaluation, please let me know.

CERTIFICATION

I certify under penalty of law that I have examined and am familiar with the information in the enclosed documents, including all attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are, to the best of my knowledge and belief, true and complete. I am aware that there are significant penalties for knowingly submitting false statements and information, including the possibility of fines or imprisonment pursuant to Section 1(c)(2) of the Clean Air Act and 18 U.S.C. §§ 1001 and 1341.

Respectfully submitted,

John R. Bedeck
Project Manager & Dir. of Quality
S.H. Bell Company

Prepared by:
Consolidated Analytical Systems, Inc.

Figure 1
Proposed Site PS2 Locations
S.H. Bell Facility, 10218 South Avenue O, Chicago, Illinois 60617

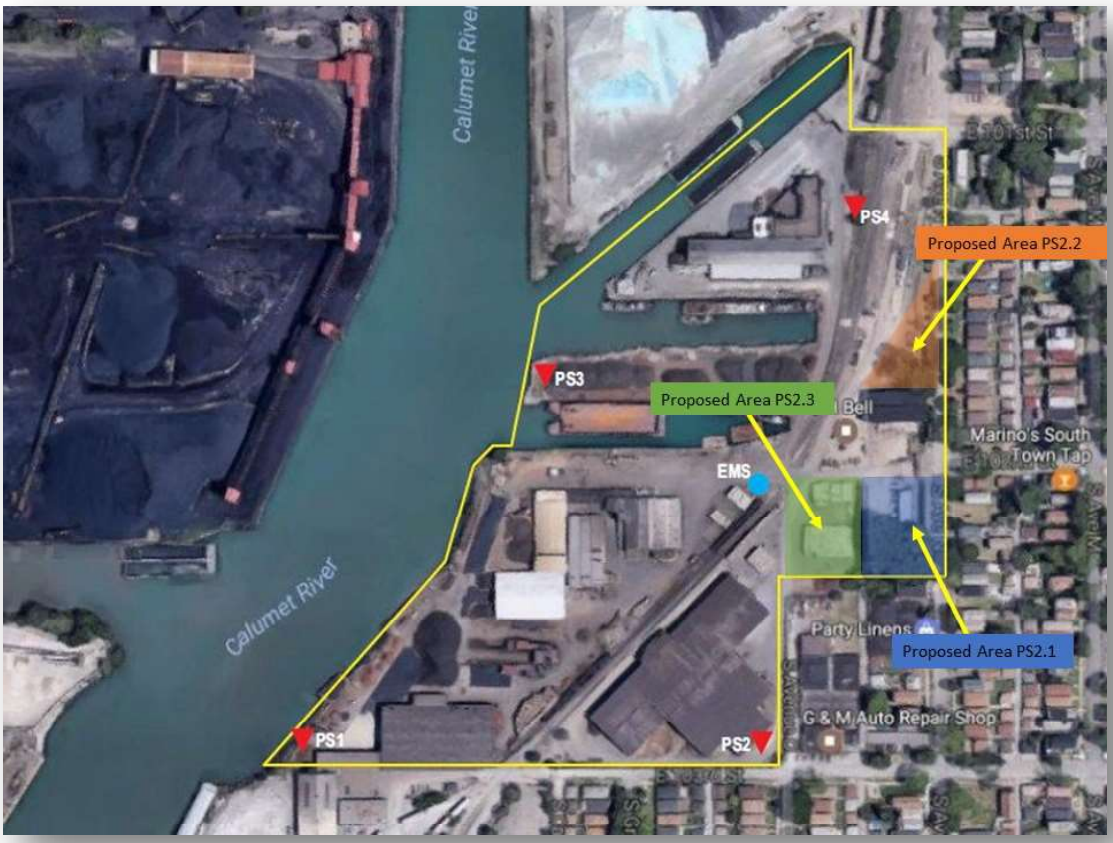


Figure 2
PS2.1 (Office Area) Site Layout
S.H. Bell Facility, 10218 South Avenue O, Chicago, Illinois 60617

SH BELL CO
HANDLING WITH CARE • LME APPROVED

February 6, 2017

United States Environmental Protection Agency, Region 5
Air and Radiation Division
Attn: Nicole Cantello (Cantello.nicole@epa.gov), George T. Czerniak, and R5enforcement@epa.gov
77 W. Jackson Blvd
Chicago, IL 60604

RE: **S.H. Bell Company**
10218 South Avenue O
Chicago, Illinois 60617
Response to January 12, 2017 Email Request to Provide Justification for Monitor Site Selection

Dear Ms. Cantello:

Per the direction of USEPA Region 5 during the conference call held February 2, 2017 between USEPA Region 5 Air and Radiation Division; The City of Chicago; S.H. Bell; S.H. Bell's counsel, Eckert Seamans Cherin & Mellott, LLC; and S.H. Bell's contractor, Consolidated Analytical Systems, Inc., S.H. Bell and its contractor have completed a re-evaluation of the attributes of alternative Proposed Monitoring Site 2.2 (PS2.2). This re-evaluation was completed because USEPA Region 5 stated that the initially proposed PS2 location was unacceptable to meet its objectives for this monitoring program. Key points from our re-evaluation are detailed below. Consideration was again given to determine if a suitable monitoring site could be installed or developed at PS2.2 that would be consistent with USEPA siting criteria guidelines outlined in 40CFRPart 58, Appendix E.

S.H. Bell maintains the best cardinal point location for a southerly and easterly airflow is represented by the initially proposed PS2. However, at the direction of USEPA Region 5 Air and Radiation Division S.H. Bell will move site location PS2 to USEPA Region 5's preferred alternative location of PS2.2 even though some deviations from USEPA siting guidance outlined in 40CFRPart 58, Appendix E will be required. Deviations are listed below in section PS2.2.

Please note, locations PS1, PS3, and PS4 have been determined to be acceptable monitoring site locations by USEPA Region 5 and only the location of PS2 is being re-evaluated. See attached Figure 1 for locations of the proposed monitoring sites on the S.H. Bell property and Figures 2-4 for photographs of site attributes at PS 2.2. Alternative locations are named as follows,

1. PS2 is S.H. Bell's original proposed location for PS2
2. PS2.2 is an area north of the S.H. Bell high bay

PS2.2 (North of High Bay/Figure 2)

The high bay is an approximately 40 foot high structure with associated parking and a road deck directly to the south, a road deck to the west, the property boundary to the east, trees directly to the

north (on and off S.H. Bell property), and a narrow triangular mixed-use storage and parking area to the north.

S.H. Bell could not identify a location that meets the complete siting requirements for spacing from an obstruction when evaluating this area and it is our understanding that USEPA will grant an exception to place the FEM instrumentation at this location – see Figure 3 for site features. In an email dated February 2, 2017 from Nicole Cantello at USEPA Region 5 to Eckert Seamens, USEPA Region 5 provided reference to 40CFR Part 58, Appendix E, Section 4 (Spacing from Obstructions) and highlighted the excerpt stating: "An exception to this requirement can be made for measurements taken in street canyons or at source-oriented sites where buildings and other structures are unavoidable." When placing a monitor at this location, the high bay will be considered an "unavoidable structure." When evaluating this area, several key issues were considered, including:

1. The minimum site location distance from the building is approximately 68' (assuming 2 meter inlet height), assuming no additional obstructions. S.H. Bell will place the monitor as far as physically possible from the high bay. However, based on other site constraints in this area (detailed below), it may not be possible to place the monitor the full 68' away.
2. A row of trees bounds the S.H. Bell property to the east. The row of trees is located off of the S.H. Bell property and runs north -south, parallel to S. Ave N, extending from the high bay north to the facility entrance located near E 101st St. Tree heights in this area range 15 to 25 feet.
3. The exiting road deck runs from the Northwest corner of the high bay to the Northeast (see Figure 2). The road is heavily used during business hours, and diesel trucks idle on the nearby scales. Minimum site location would need to be 2 meters from this road surface. S.H. Bell will place the monitor as far away as possible from the road deck and truck scales in order to avoid potential influence of particulate matter from the roadway and trucks.
4. Several large (approximately 60 foot high) trees are located adjacent to the north of the high bay building (Figure 4). These trees will need to be removed in order to site the monitor at PS2.2 without interference from the trees.

Additional Considerations

Following installation and start-up of the monitors, if it is determined that the concentrations at location PS2.2 are not representative of site conditions due to the influence of airflow around the high bay (based on data collected from the other three monitoring sites) S.H. Bell reserves the right to move location PS2.2 to a more representative monitoring location area along the eastern border of the S.H. Bell property.

SUMMARY

S.H. Bell looks forward to USEPA's review and approval of responses to questions regarding monitoring site selection. Should you have any additional questions about the evaluation, please let me know.

CERTIFICATION

I certify under penalty of law that I have examined and am familiar with the information in the enclosed documents, including all attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are, to the best of my knowledge and belief, true and complete. I am aware that there are significant penalties for knowingly submitting false statements and information, including the possibility of fines or imprisonment pursuant to Section 1(c)(2) of the Clean Air Act and 18 U.S.C. §§ 1001 and 1341.

Respectfully submitted,

John R. Bedeck
Project Manager & Dir. of Quality
S.H. Bell Company

Prepared by:
Consolidated Analytical Systems, Inc.

Figure 1
Proposed Monitoring Site Locations
S.H. Bell Facility, 10218 South Avenue O, Chicago, Illinois 60617

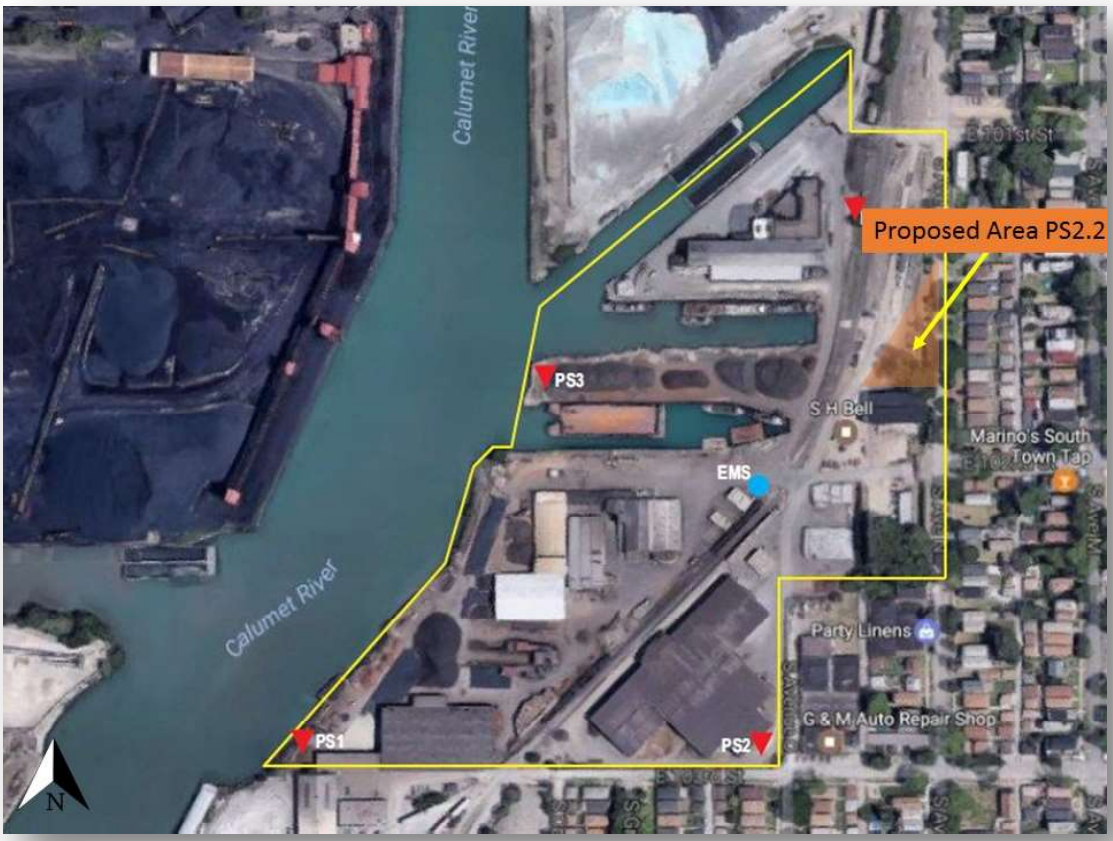


Figure 2
Aerial View of Proposed Site PS2.2 (High Bay) Monitoring Location
S.H. Bell Facility, 10218 South Avenue O, Chicago, Illinois 60617

Figure 3
PS2.2 (High Bay) Site Layout
S.H. Bell Facility, 10218 South Avenue O, Chicago, Illinois 60617

Figure 4
View to West of PS2.2 from S. Ave N on eastern property boundary.
S.H. Bell Facility, 10218 South Avenue O, Chicago, Illinois 60617

Note: High Bay building is visible on the left side of the frame

Figure 3
PS2.2 (North of High Bay) Site Layout
S.H. Bell Facility, 10218 South Avenue O, Chicago, Illinois 60617

Figure 4
PS2.3 (Bulk Material Storage Area) Site Layout
S.H. Bell Facility, 10218 South Avenue O, Chicago, Illinois 60617

Figure 5
PS2 (Initial Proposed PS2) Site Layout
S.H. Bell Facility, 10218 South Avenue O, Chicago, Illinois 60617

February 10, 2017

United States Environmental Protection Agency, Region 5
Air and Radiation Division
Attn: Nicole Cantello (Cantello.nicole@epa.gov), George T. Czerniak, and R5enforcement@epa.gov
77 W. Jackson Blvd
Chicago, IL 60604

RE: **S.H. Bell Company**
10218 South Avenue O
Chicago, Illinois 60617
Response to February 7, 2017 Email Request to Relocate Proposed Monitoring Site PS2.2

Dear Ms. Cantello:

This letter is a response to USEPA Region 5's February 7, 2017 email request to relocate proposed monitoring site PS2.2.

Monitor Location

During the February 2, 2017 conference call between USEPA Region 5, the City of Chicago, and S.H. Bell and its counsel and contractor (Eckert Seamans Cherin & Mellot and CAS, respectively) to discuss the additional proposed PS2 monitoring locations PS2.1, PS2.2, and PS2.3, the following items were discussed in open conversation:

- PS2.1 and PS2.3 were deemed to be unsuitable monitoring locations.
- PS2.2 was determined to be the most suitable monitoring location, even though all USEPA siting criteria conditions (as outlined in 40 CFR Part 58 Appendix E) could not be met. Rationale for seeking exemptions to USEPA siting criteria was reviewed by all parties on the call. USEPA agreed to provide S.H. Bell with additional guidance on exemptions to siting criteria to use as rationale for placing the monitor at PS2.2.
- Parties discussed placement of the monitor within the general area of the proposed PS2.2 area.
    - Specifically, the area in the northern portion of the PS2.2 alternative location adjacent to the road deck and weigh station was discussed. After discussion (notably between Mr. Seth Cloran of CAS and Mr. Patrick Miller of USEPA Region 5), this area was determined to be unsuitable due to its proximity to the road deck and weigh station where bulk material haulers (primarily diesel-fuel vehicles) idle.

However, in its February 7, 2017 e-mail correspondence, USEPA Region 5 recommended placement of the monitor within a blue-shaded area in the northern portion of the PS2.2 alternative location adjacent to the road deck and weigh station.

S.H. Bell is seeking clarification regarding USEPA Region 5's intended monitor location. A summary of the rationale for locating PS2.2 in the orange outlined area rather than the blue outlined area identified in USEPA Region 5's email is presented below (see Figure 1 for reference). The western portion of the blue-shaded area would be located close to a road deck and weigh station where bulk material haulers (primarily diesel-fueled vehicles) idle at the approach to the scale house. Having a monitor this close has the potential to influence the monitor as a point source measurement, which would:

- Not be representative of the PM10 concentrations that nearby receptors would be potentially exposed to, and
- Not be representative of the S.H Bell PM10 contribution to the ambient air mass.
- Additionally, the blue-shaded area identified by USEPA Region 5 in its February 7, 2017 email is currently used as a parking lot for S.H Bell employees and contractors, and thus, placing the monitor in this location will negatively impact operations of the facility, which makes this area unsuitable as a monitor location.

Further, the eastern portion of the blue-shaded area recommended by USEPA Region 5 is located next to a vegetated berm and tree row (located off S.H. Bell property). These obstacles could potentially generate an inlet aspiration area which could result in PM concentrations which are not representative of the actual S.H Bell contribution to the particulate in the ambient air mass.

In summary, compounding the deviations from USEPA siting criteria will increase the negative impacts of the efficacy of the data produced from the monitoring locations.

Monitor Platform

During the February 2, 2017 conference call, no mention of placing the monitor on an elevated platform was made. However, in its February 7, 2017 email USEPA Region 5 recommended placing the monitor on a platform. In regards to the request for a "monitor raised on a platform", S.H. Bell contends:

- Placing one (PS2.2) of the four Particulate monitor inlets on a platform with a higher distance from ground level, while the other three approved monitoring locations (PS1, PS3, PS4) are aspirating air at the same relative height from ground level is not advised. S.H Bell has selected our monitoring locations to provide uniformity across our facility; the placement of one of the particulate monitors on a significantly elevated platform has the potential to negatively influence the uniformity of data being collected by the monitor to determine the source/site contribution to the ambient air mass.

S.H. BELL RECOMMENDATION:

In order to collect the most representative and scientifically defensible data at the S.H. Bell facility, S.H. Bell proposes the particulate monitor at site PS2.2 be placed at an approximate location between 20' and 40' from the northern wall of the High Bay, at a location between 40' and 50' from the centerline of the tree row running north/south on the S.H Bell property side (west) of S Ave N. To provide uniformity of monitoring stations across the S.H. Bell facility, the monitor at PS2.2 should be placed at the same height from ground level as other monitors at the site.

SUMMARY

S.H. Bell looks forward to USEPA Region 5's clarification on this matter and to beginning monitoring.

INCORPORATION BY REFERENCE

Documentation of discussions held to date regarding monitoring site locations at the S.H. Bell facility are documented below. Previous communications are incorporated by reference.

By way of background, this is USEPA Region 5's fourth request to re-evaluate/re-locate the initially proposed PS2 monitoring site location, which were previously made in a January 12, 2017 e-mail from Nicole Cantello and in conference calls on January 25, 2017 and on February 2, 2017. S.H. Bell has promptly responded to all of USEPA Region 5's requests in this regard. Notably, S.H. Bell's February 6, 2017 letter re-evaluated the alternative site location PS2.2 when USEPA stated that the initially proposed PS2 monitoring location was unacceptable as it did not meet its objective for this monitoring program. The initially proposed PS2 monitoring location is the only location that meets all USEPA siting criteria. At the direction of USEPA Region 5 during a February 2, 2017 conference call, S.H. Bell evaluated moving the monitor site location PS2 to USEPA Region 5's preferred alternative location of PS2.2 even though multiple deviations from USEPA siting criteria will be required. Notably, the PS2.2 alternative location was specified to USEPA in a letter dated January 30, 2017 that was in response to USEPA's request to evaluate alternative locations on the eastern site of the facility.

CERTIFICATION

> I certify under penalty of law that I have examined and am familiar with the information in the enclosed documents, including all attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are, to the best of my knowledge and belief, true and complete. I am aware that there are significant penalties for knowingly submitting false statements and information, including the possibility of fines or imprisonment pursuant to Section 1(c)(2) of the Clean Air Act and 18 U.S.C. §§ 1001 and 1341.

Respectfully submitted,

John R. Bedeck
Project Manager & Dir. Of Quality
S.H. Bell Company

Prepared by:
Consolidated Analytical Systems, Inc.

Figure 1
Proposed Monitoring Site Location
S.H. Bell Facility, 10218 South Avenue O, Chicago, Illinois 60617

February 14, 2017

United States Environmental Protection Agency, Region 5
Air and Radiation Division
Attn: Nicole Contello (Cantello.nicole@epa.gov), George T. Czerniak, and R5enforcement@epa.gov
77 W. Jackson Blvd
Chicago, IL 60604

RE: **S.H. Bell Company**
10218 South Avenue O
Chicago, Illinois 60617
Letter Update to S.H. Bell's December 30, 2016 Response to:
Request to Provide Information Pursuant to the Clean Air Act
Appendix B, PM_{10} Monitors and Siting
Proposed Monitoring Sites and Locations

Dear Ms. Cantello:

S.H. Bell is pleased to submit this update to our December 30, 2016, response to USEPA Region 5 Air and Radiation Division's Request to Provide Information Pursuant to the Clean Air Act dated March 9, 2015. Specifically, this letter report documents the location change for proposed monitoring location PS2 determined during a series of telephone discussions, emails, and letter reports between USEPA Region 5, the City of Chicago, S.H. Bell, S.H. Bell's counsel Eckert, Seamans, Cherin & Mellott, LLC, and S.H. Bell's air monitoring contractor Consolidated Analytical Systems, Inc., as documented below. The final proposed monitoring locations PS1, PS2, PS3, and PS4 are shown on Figure 1.

INCORPORATION BY REFERENCE

- *12/30/2016 – S.H. Bell "Response to Request to Provide Information Pursuant to the Clean Air Act, Appendix B, PM10 Monitors and Siting, Proposed Monitoring Sites and Locations"*
- *01/11/2017 – USEPA Region 5 Email from Nicole Cantello "S.H. Bell Company Chicago, S. Avenue O Terminal – Monitoring and Siting" (request for clarification to proposed monitoring site selection)*
- *01/18/2017 – S.H. Bell Letter "Response to January 12, 2017 (sic) Email Request to Provide Justification for Monitor Site Selection"*
- *01/25/2017 – Conference Call between USEPA Region 5 and S.H. Bell (request for evaluation of PS2, PS2.1, PS2.2, and PS2.3)*
- *01/30/2017 – S.H. Bell S. Letter Response to January 12, 2017 (sic) Email Request to Provide Justification for Monitor Site Selection (Response to 01/25/2017 conference call requesting written evaluation of PS2, PS2.1, PS2.2, PS2.3)*
- *02/02/2017 – Conference Call between USEPA Region 5, the City of Chicago, S.H. Bell, Eckert Seamans Cherin & Mellot, LLC and Consolidated Analytical Systems, Inc. (request to re-evaluated alternative proposed monitoring site PS2.2)*

- *02/06/2017 – S.H. Bell Letter "Response to January 12, 2017 (sic) Email Request to Provide Justification for Monitor Site Selection" (Re-Evaluation of alternative proposed site PS2.2)*
- *02/07/2017 - USEPA Region 5 Email from Nicole Cantello "S.H. Bell Company Chicago, S. Avenue O Terminal – Monitoring and Siting" (request to locate proposed monitoring site PS2.2)*
- *02/10/20117 – S.H. Bell Letter "Response to February 7, 2017 Email Request to Locate Proposed Monitoring Site PS2.2"*
- *02/13/2017 – USEPA Region 5 Email from Nicole Cantello "S.H. Bell Company Chicago, S. Avenue O Terminal – Monitoring and Siting" (request to resubmit S.H. Bell siting plan for approval)*

SUMMARY

S.H. Bell looks forward to installing, operating, and maintaining ambient monitoring sites at the facility upon your approval of the proposed plan. Should you have any questions about the proposed monitoring locations, please let me know.

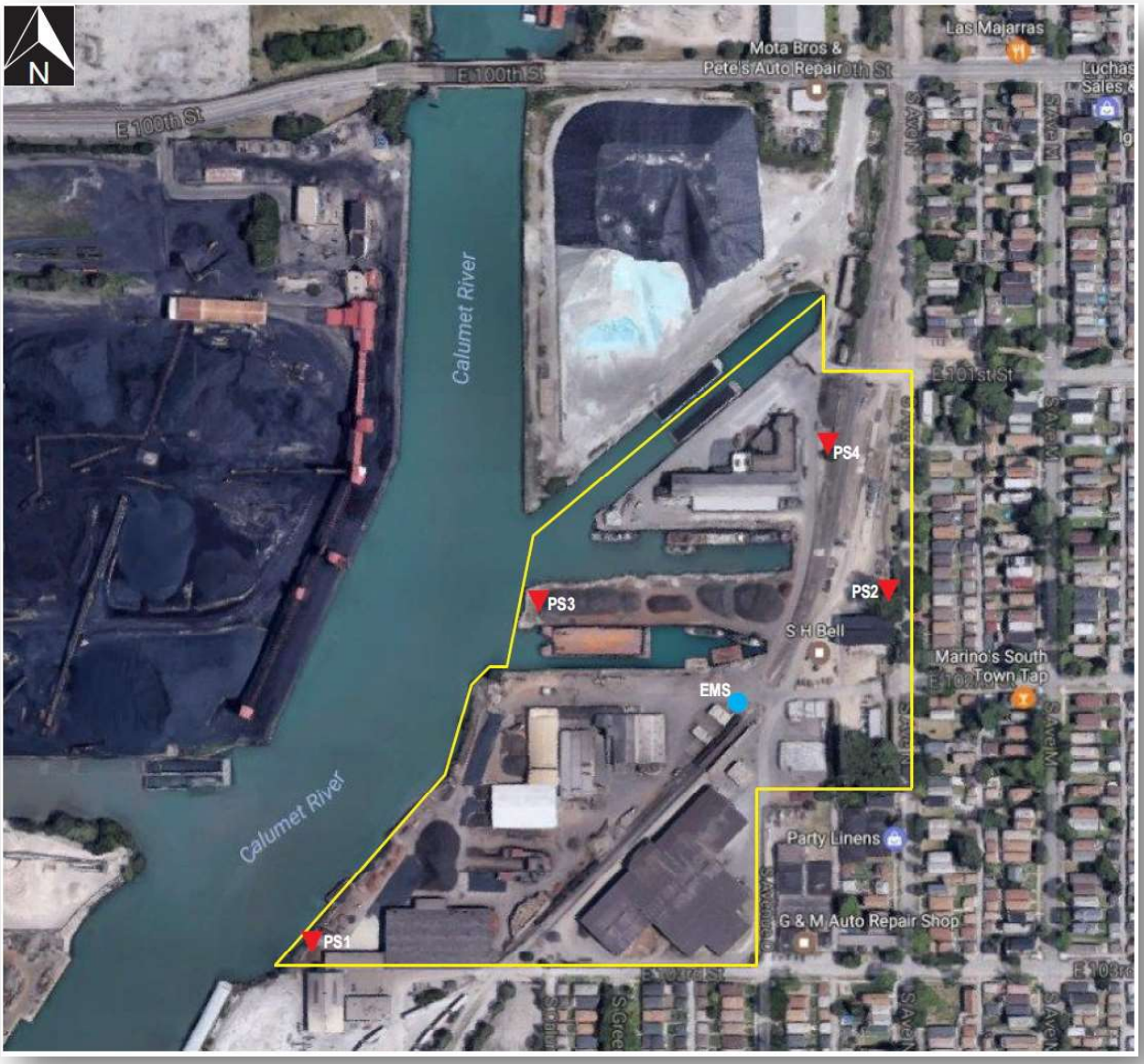
CERTIFICATION

I certify under penalty of law that I have examined and am familiar with the information in the enclosed documents, including all attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are, to the best of my knowledge and belief, true and complete. I am aware that there are significant penalties for knowingly submitting false statements and information, including the possibility of fines or imprisonment pursuant to Section 1(c)(2) of the Clean Air Act and 18 U.S.C. §§ 1001 and 1341.

Respectfully submitted,

John R. Bedeck
Project Manager & Dir. of Quality
S.H. Bell Company

Figure 1
Proposed and Existing Monitoring Locations
S.H. Bell Facility, 10218 South Avenue O, Chicago, Illinois 60617



Site ID	Latitude	Longitude
PS1	41.708264	-87.544006
PS2	41.710537	-87.539158
PS3	41.710494	-87.542090
PS4	41.711527	-87.539628
EMS	41.709861	-87.539692

APPENDIX C

Fugitive Dust Plan Fact Sheet

Fugitive Dust Plan Fact Sheet
S.H. Bell Company Chicago Terminal

Description of Operation:

The S.H. Bell Co. Chicago Terminal handles, processes, and stores materials that are transported to and from the facility by barge, rail, and truck. The facility handles bulk materials including ferro alloys, direct reduced iron (DRI) (not fines), hot briquetted iron (HBI), pig iron, iron ore, and silicon metal as well as non-bulk materials which do not have the potential to become airborne or scattered by wind, such as graphite electrodes and cast aluminum and steel shapes. Our Fugitive Dust Plan fully meets all the requirements under the City's Bulk Material Regulations and exceeds them in certain areas. The following is a description of the various dust control measures.

Dust Control Measures and Equipment:

Various dust control measures and equipment are used to address potential dust emissions, including:

- Manganese-containing materials ("Affected Materials") are not stored outdoors.
- Controls for material transfer points:
    - water spray systems that include direct application to material, mobile misters, and dry foggers
    - total enclosure
    - dust collectors for box and bag filling, truck loadout sheds, and portable dust collectors for use at various other transfer points
- Detailed operating procedures for each operation/transfer point, with specific dust control procedures based on material type – Dry Materials/Wetted Materials and Affected Materials and non-Affected Materials.
- Wet suppressant spray system and enclosure for jaw crushing/screening operations; no outdoor screening of Affected Materials.
- Covered conveyor for rail loading.

Roadway Dust and Track-Out Prevention:

- All internal roads that trucks travel on are paved.
- Maximum vehicle speed of 8 mph.
- Daily road sweeping/watering on all internal roads.
- Street sweeper equipped with a water spray and vacuum system.
- Minimum monthly chemical dust suppressant application.
- All outgoing material transport trucks are tarped and are cleaned by rumble strips.
- Public roads are inspected for material track-out and are cleaned if track-out is found.

Fugitive Dust Measurements:

The following fugitive dust measurement actions are used:

- Four (4) continuous PM10 monitors placed within the fence line at the Facility.
- Meteorological Station to monitor and log wind speed and wind direction and to provide alerts of high wind events.
- Daily observations for fugitive dust at least once per shift for each active operation controlled by total enclosure or dust collector at both the operation and nearest property line (based on wind direction); observations at least three times per working shift for outdoor activities such as barge unloading, truck unloading, and working outdoor piles.
- Quarterly Method 9 opacity reads performed by a certified professional on outdoor storage piles, roadways, and material transfer points.

Contingency Plans:

The Facility has developed contingency plans to respond to various potential fugitive dust conditions.

- Respond to elevated visible dust:
    - Immediate deployment of applicable additional controls such as the mobile misters/dry fogging system.
    - Increased observations for visible dust.
    - If necessary, the activities at the source will be suspended pending favorable weather conditions.

- Respond to high wind events:
    - Automated alert system to notify personnel of high wind events;
    - Automatic suspension of outdoor activities involving Affected Materials, such as barge and truck unloading.
    - Employ additional control measures for non-Affected Material operations and suspend activities if additional control is found to be ineffective.

- Respond to elevated PM10 monitor readings:
    - Automated alert system to notify personnel of alert conditions.
    - Investigate to determine suspected source(s).
    - Increasingly aggressive mitigation efforts based on the level of alert.
    - Suspension of suspected source activity if warranted.

RANAJIT (RON) SAHU, Ph.D, QEP, CEM (Nevada)

CONSULTANT, ENVIRONMENTAL AND ENERGY ISSUES

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EXPERIENCE SUMMARY

Dr. Sahu has over thirty years of experience in the fields of environmental, mechanical, and chemical engineering including: program and project management services; design and specification of pollution control equipment for a wide range of emissions sources including stationary and mobile sources; soils and groundwater remediation including landfills as remedy; combustion engineering evaluations; energy studies; multimedia environmental regulatory compliance (involving statutes and regulations such as the Federal CAA and its Amendments, Clean Water Act, TSCA, RCRA, CERCLA, SARA, OSHA, NEPA as well as various related state statutes); transportation air quality impact analysis; multimedia compliance audits; multimedia permitting (including air quality NSR/PSD permitting, Title V permitting, NPDES permitting for industrial and storm water discharges, RCRA permitting, etc.), multimedia/multi-pathway human health risk assessments for toxics; air dispersion modeling; and regulatory strategy development and support including negotiation of consent agreements and orders.

He has over twenty seven years of project management experience and has successfully managed and executed numerous projects in this time period. This includes basic and applied research projects, design projects, regulatory compliance projects, permitting projects, energy studies, risk assessment projects, and projects involving the communication of environmental data and information to the public.

He has provided consulting services to numerous private sector, public sector and public interest group clients. His major clients over the past twenty five years include various trade associations as well as individual companies such as steel mills, petroleum refineries, cement manufacturers, aerospace companies, power generation facilities, lawn and garden equipment manufacturers, spa manufacturers, chemical distribution facilities, and various entities in the public sector including EPA, the US Dept. of Justice, several states, various agencies such as the California DTSC, various municipalities, etc.). Dr. Sahu has performed projects in all 50 states, numerous local jurisdictions and internationally.

In addition to consulting, for approximately twenty years, Dr. Sahu taught numerous courses in several Southern California universities including UCLA (air pollution), UC Riverside (air pollution, process hazard analysis), and Loyola Marymount University (air pollution, risk assessment, hazardous waste management). He also taught at Caltech, his alma mater (various engineering courses), at the University of Southern California (air pollution controls) and at California State University, Fullerton (transportation and air quality).

Dr. Sahu has and continues to provide expert witness services in a number of environmental areas discussed above in both state and Federal courts as well as before administrative bodies (please see Annex A).

EXPERIENCE RECORD

2000-present **Independent Consultant.** Providing a variety of private sector (industrial companies, land development companies, law firms, etc.), public sector (such as the US Department of Justice), and public interest group clients with project management, environmental

consulting, project management, as well as regulatory and engineering support consulting services.

1995-2000 Parsons ES, **Associate, Senior Project Manager and Department Manager for** Air Quality/Geosciences/Hazardous Waste Groups, Pasadena. Responsible for the management of a group of approximately 24 air quality and environmental professionals, 15 geoscience, and 10 hazardous waste professionals providing full-service consulting, project management, regulatory compliance and A/E design assistance in all areas.

Parsons ES, **Manager for Air Source Testing Services**. Responsible for the management of 8 individuals in the area of air source testing and air regulatory permitting projects located in Bakersfield, California.

1992-1995 Engineering-Science, Inc. **Principal Engineer and Senior Project Manager** in the air quality department. Responsibilities included multimedia regulatory compliance and permitting (including hazardous and nuclear materials), air pollution engineering (emissions from stationary and mobile sources, control of criteria and air toxics, dispersion modeling, risk assessment, visibility analysis, odor analysis), supervisory functions and project management.

1990-1992 Engineering-Science, Inc. **Principal Engineer and Project Manager** in the air quality department. Responsibilities included permitting, tracking regulatory issues, technical analysis, and supervisory functions on numerous air, water, and hazardous waste projects. Responsibilities also include client and agency interfacing, project cost and schedule control, and reporting to internal and external upper management regarding project status.

1989-1990 Kinetics Technology International, Corp. **Development Engineer.** Involved in thermal engineering R&D and project work related to low-NOx ceramic radiant burners, fired heater NOx reduction, SCR design, and fired heater retrofitting.

1988-1989 Heat Transfer Research, Inc. **Research Engineer**. Involved in the design of fired heaters, heat exchangers, air coolers, and other non-fired equipment. Also did research in the area of heat exchanger tube vibrations.

EDUCATION

1984-1988 Ph.D., Mechanical Engineering, California Institute of Technology (Caltech), Pasadena, CA.

1984 M. S., Mechanical Engineering, California Institute of Technology (Caltech), Pasadena, CA.

1978-1983 B. Tech (Honors), Mechanical Engineering, Indian Institute of Technology (IIT) Kharagpur, India

TEACHING EXPERIENCE

Caltech

"Thermodynamics," Teaching Assistant, California Institute of Technology, 1983, 1987.

"Air Pollution Control," Teaching Assistant, California Institute of Technology, 1985.

"Caltech Secondary and High School Saturday Program," - taught various mathematics (algebra through calculus) and science (physics and chemistry) courses to high school students, 1983-1989.

"Heat Transfer," - taught this course in the Fall and Winter terms of 1994-1995 in the Division of Engineering and Applied Science.

“Thermodynamics and Heat Transfer,” Fall and Winter Terms of 1996-1997.

U.C. Riverside, Extension

"Toxic and Hazardous Air Contaminants," University of California Extension Program, Riverside, California. Various years since 1992.

"Prevention and Management of Accidental Air Emissions," University of California Extension Program, Riverside, California. Various years since 1992.

"Air Pollution Control Systems and Strategies," University of California Extension Program, Riverside, California, Summer 1992-93, Summer 1993-1994.

"Air Pollution Calculations," University of California Extension Program, Riverside, California, Fall 1993-94, Winter 1993-94, Fall 1994-95.

"Process Safety Management," University of California Extension Program, Riverside, California. Various years since 1992-2010.

"Process Safety Management," University of California Extension Program, Riverside, California, at SCAQMD, Spring 1993-94.

"Advanced Hazard Analysis - A Special Course for LEPCs," University of California Extension Program, Riverside, California, taught at San Diego, California, Spring 1993-1994.

“Advanced Hazardous Waste Management” University of California Extension Program, Riverside, California. 2005.

Loyola Marymount University

"Fundamentals of Air Pollution - Regulations, Controls and Engineering," Loyola Marymount University, Dept. of Civil Engineering. Various years since 1993.

"Air Pollution Control," Loyola Marymount University, Dept. of Civil Engineering, Fall 1994.

“Environmental Risk Assessment,” Loyola Marymount University, Dept. of Civil Engineering. Various years since 1998.

“Hazardous Waste Remediation” Loyola Marymount University, Dept. of Civil Engineering. Various years since 2006.

University of Southern California

"Air Pollution Controls," University of Southern California, Dept. of Civil Engineering, Fall 1993, Fall 1994.

"Air Pollution Fundamentals," University of Southern California, Dept. of Civil Engineering, Winter 1994.

University of California, Los Angeles

"Air Pollution Fundamentals," University of California, Los Angeles, Dept. of Civil and Environmental Engineering, Spring 1994, Spring 1999, Spring 2000, Spring 2003, Spring 2006, Spring 2007, Spring 2008, Spring 2009.

International Programs

“Environmental Planning and Management,” 5 week program for visiting Chinese delegation, 1994.

“Environmental Planning and Management,” 1 day program for visiting Russian delegation, 1995.

“Air Pollution Planning and Management,” IEP, UCR, Spring 1996.

“Environmental Issues and Air Pollution,” IEP, UCR, October 1996.

PROFESSIONAL AFFILIATIONS AND HONORS

President of India Gold Medal, IIT Kharagpur, India, 1983.

Member of the Alternatives Assessment Committee of the Grand Canyon Visibility Transport Commission, established by the Clean Air Act Amendments of 1990, 1992.

American Society of Mechanical Engineers: Los Angeles Section Executive Committee, Heat Transfer Division, and Fuels and Combustion Technology Division, 1987-mid-1990s.

Air and Waste Management Association, West Coast Section, 1989-mid-2000s.

PROFESSIONAL CERTIFICATIONS

EIT, California (#XE088305), 1993.

REA I, California (#07438), 2000.

Certified Permitting Professional, South Coast AQMD (#C8320), since 1993.

QEP, Institute of Professional Environmental Practice, since 2000.

CEM, State of Nevada (#EM-1699). Expiration 10/07/2021.

PUBLICATIONS (PARTIAL LIST)

"Physical Properties and Oxidation Rates of Chars from Bituminous Coals," with Y.A. Levendis, R.C. Flagan and G.R. Gavalas, *Fuel*, **67**, 275-283 (1988).

"Char Combustion: Measurement and Analysis of Particle Temperature Histories," with R.C. Flagan, G.R. Gavalas and P.S. Northrop, *Comb. Sci. Tech.* **60**, 215-230 (1988).

"On the Combustion of Bituminous Coal Chars," PhD Thesis, California Institute of Technology (1988).

"Optical Pyrometry: A Powerful Tool for Coal Combustion Diagnostics," *J. Coal Quality*, **8**, 17-22 (1989).

"Post-Ignition Transients in the Combustion of Single Char Particles," with Y.A. Levendis, R.C. Flagan and G.R. Gavalas, *Fuel*, **68**, 849-855 (1989).

"A Model for Single Particle Combustion of Bituminous Coal Char." Proc. ASME National Heat Transfer Conference, Philadelphia, **HTD-Vol. 106**, 505-513 (1989).

"Discrete Simulation of Cenospheric Coal-Char Combustion," with R.C. Flagan and G.R. Gavalas, *Combust. Flame*, **77**, 337-346 (1989).

"Particle Measurements in Coal Combustion," with R.C. Flagan, in "**Combustion Measurements**" (ed. N. Chigier), Hemisphere Publishing Corp. (1991).

"Cross Linking in Pore Structures and Its Effect on Reactivity," with G.R. Gavalas in preparation.

"Natural Frequencies and Mode Shapes of Straight Tubes," Proprietary Report for Heat Transfer Research Institute, Alhambra, CA (1990).

"Optimal Tube Layouts for Kamui SL-Series Exchangers," with K. Ishihara, Proprietary Report for Kamui Company Limited, Tokyo, Japan (1990).

"HTRI Process Heater Conceptual Design," Proprietary Report for Heat Transfer Research Institute, Alhambra, CA (1990).

"Asymptotic Theory of Transonic Wind Tunnel Wall Interference," with N.D. Malmuth and others, Arnold Engineering Development Center, Air Force Systems Command, USAF (1990).

"Gas Radiation in a Fired Heater Convection Section," Proprietary Report for Heat Transfer Research Institute, College Station, TX (1990).

"Heat Transfer and Pressure Drop in NTIW Heat Exchangers," Proprietary Report for Heat Transfer Research Institute, College Station, TX (1991).

"NOx Control and Thermal Design," Thermal Engineering Tech Briefs, (1994).

“From Purchase of Landmark Environmental Insurance to Remediation: Case Study in Henderson, Nevada,” with Robin E. Bain and Jill Quillin, presented at the AQMA Annual Meeting, Florida, 2001.

“The Jones Act Contribution to Global Warming, Acid Rain and Toxic Air Contaminants,” with Charles W. Botsford, presented at the AQMA Annual Meeting, Florida, 2001.

PRESENTATIONS (PARTIAL LIST)

"Pore Structure and Combustion Kinetics - Interpretation of Single Particle Temperature-Time Histories," with P.S. Northrop, R.C. Flagan and G.R. Gavalas, presented at the AIChE Annual Meeting, New York (1987).

"Measurement of Temperature-Time Histories of Burning Single Coal Char Particles," with R.C. Flagan, presented at the American Flame Research Committee Fall International Symposium, Pittsburgh, (1988).

"Physical Characterization of a Cenospheric Coal Char Burned at High Temperatures," with R.C. Flagan and G.R. Gavalas, presented at the Fall Meeting of the Western States Section of the Combustion Institute, Laguna Beach, California (1988).

"Control of Nitrogen Oxide Emissions in Gas Fired Heaters - The Retrofit Experience," with G. P. Croce and R. Patel, presented at the International Conference on Environmental Control of Combustion Processes (Jointly sponsored by the American Flame Research Committee and the Japan Flame Research Committee), Honolulu, Hawaii (1991).

"Air Toxics - Past, Present and the Future," presented at the Joint AIChE/AAEE Breakfast Meeting at the AIChE 1991 Annual Meeting, Los Angeles, California, November 17-22 (1991).

"Air Toxics Emissions and Risk Impacts from Automobiles Using Reformulated Gasolines," presented at the Third Annual Current Issues in Air Toxics Conference, Sacramento, California, November 9-10 (1992).

"Air Toxics from Mobile Sources," presented at the Environmental Health Sciences (ESE) Seminar Series, UCLA, Los Angeles, California, November 12, (1992).

"Kilns, Ovens, and Dryers - Present and Future," presented at the Gas Company Air Quality Permit Assistance Seminar, Industry Hills Sheraton, California, November 20, (1992).

"The Design and Implementation of Vehicle Scrapping Programs," presented at the 86th Annual Meeting of the Air and Waste Management Association, Denver, Colorado, June 12, 1993.

"Air Quality Planning and Control in Beijing, China," presented at the 87th Annual Meeting of the Air and Waste Management Association, Cincinnati, Ohio, June 19-24, 1994.

Annex A

Expert Litigation Support

A. Occasions where Dr. Sahu has provided Written or Oral testimony before Congress:

1. In July 2012, provided expert written and oral testimony to the House Subcommittee on Energy and the Environment, Committee on Science, Space, and Technology at a Hearing entitled "Hitting the Ethanol Blend Wall – Examining the Science on E15."

B. Matters for which Dr. Sahu has provided affidavits and expert reports include:

2. Affidavit for Rocky Mountain Steel Mills, Inc. located in Pueblo Colorado – dealing with the technical uncertainties associated with night-time opacity measurements in general and at this steel mini-mill.
3. Expert reports and depositions (2/28/2002 and 3/1/2002; 12/2/2003 and 12/3/2003; 5/24/2004) on behalf of the United States in connection with the Ohio Edison NSR Cases. *United States, et al. v. Ohio Edison Co., et al.*, C2-99-1181 (Southern District of Ohio).
4. Expert reports and depositions (5/23/2002 and 5/24/2002) on behalf of the United States in connection with the Illinois Power NSR Case. *United States v. Illinois Power Co., et al.*, 99-833-MJR (Southern District of Illinois).
5. Expert reports and depositions (11/25/2002 and 11/26/2002) on behalf of the United States in connection with the Duke Power NSR Case. *United States, et al. v. Duke Energy Corp.*, 1:00-CV-1262 (Middle District of North Carolina).
6. Expert reports and depositions (10/6/2004 and 10/7/2004; 7/10/2006) on behalf of the United States in connection with the American Electric Power NSR Cases. *United States, et al. v. American Electric Power Service Corp., et al.*, C2-99-1182, C2-99-1250 (Southern District of Ohio).
7. Affidavit (March 2005) on behalf of the Minnesota Center for Environmental Advocacy and others in the matter of the Application of Heron Lake BioEnergy LLC to construct and operate an ethanol production facility – submitted to the Minnesota Pollution Control Agency.
8. Expert Report and Deposition (10/31/2005 and 11/1/2005) on behalf of the United States in connection with the East Kentucky Power Cooperative NSR Case. *United States v. East Kentucky Power Cooperative, Inc*., 5:04-cv-00034-KSF (Eastern District of Kentucky).
9. Affidavits and deposition on behalf of Basic Management Inc. (BMI) Companies in connection with the BMI vs. USA remediation cost recovery Case.
10. Expert Report on behalf of Penn Future and others in the Cambria Coke plant permit challenge in Pennsylvania.

11. Expert Report on behalf of the Appalachian Center for the Economy and the Environment and others in the Western Greenbrier permit challenge in West Virginia.

12. Expert Report, deposition (via telephone on January 26, 2007) on behalf of various Montana petitioners (Citizens Awareness Network (CAN), Women's Voices for the Earth (WVE) and the Clark Fork Coalition (CFC)) in the Thompson River Cogeneration LLC Permit No. 3175-04 challenge.

13. Expert Report and deposition (2/2/07) on behalf of the Texas Clean Air Cities Coalition at the Texas State Office of Administrative Hearings (SOAH) in the matter of the permit challenges to TXU Project Apollo's eight new proposed PRB-fired PC boilers located at seven TX sites.

14. Expert Testimony (July 2007) on behalf of the Izaak Walton League of America and others in connection with the acquisition of power by Xcel Energy from the proposed Gascoyne Power Plant – at the State of Minnesota, Office of Administrative Hearings for the Minnesota PUC (MPUC No. E002/CN-06-1518; OAH No. 12-2500-17857-2).

15. Affidavit (July 2007) Comments on the Big Cajun I Draft Permit on behalf of the Sierra Club – submitted to the Louisiana DEQ.

16. Expert Report and Deposition (12/13/2007) on behalf of Commonwealth of Pennsylvania – Dept. of Environmental Protection, State of Connecticut, State of New York, and State of New Jersey (Plaintiffs) in connection with the Allegheny Energy NSR Case. *Plaintiffs v. Allegheny Energy Inc., et al.,* 2:05cv0885 (Western District of Pennsylvania).

17. Expert Reports and Pre-filed Testimony before the Utah Air Quality Board on behalf of Sierra Club in the Sevier Power Plant permit challenge.

18. Expert Report and Deposition (October 2007) on behalf of MTD Products Inc., in connection with *General Power Products, LLC v MTD Products Inc*., 1:06 CVA 0143 (Southern District of Ohio, Western Division) .

19. Expert Report and Deposition (June 2008) on behalf of Sierra Club and others in the matter of permit challenges (Title V: 28.0801-29 and PSD: 28.0803-PSD) for the Big Stone II unit, proposed to be located near Milbank, South Dakota.

20. Expert Reports, Affidavit, and Deposition (August 15, 2008) on behalf of Earthjustice in the matter of air permit challenge (CT-4631) for the Basin Electric Dry Fork station, under construction near Gillette, Wyoming before the Environmental Quality Council of the State of Wyoming.

21. Affidavits (May 2010/June 2010 in the Office of Administrative Hearings))/Declaration and Expert Report (November 2009 in the Office of Administrative Hearings) on behalf of NRDC and the Southern Environmental Law Center in the matter of the air permit challenge for Duke Cliffside Unit 6. Office of Administrative Hearing Matters 08 EHR 0771, 0835 and 0836 and 09 HER 3102, 3174, and 3176 (consolidated).

22. Declaration (August 2008), Expert Report (January 2009), and Declaration (May 2009) on behalf of Southern Alliance for Clean Energy in the matter of the air permit challenge for Duke Cliffside Unit 6. *Southern Alliance for Clean Energy et al., v. Duke Energy Carolinas, LLC*, Case No. 1:08-cv-00318-LHT-DLH (Western District of North Carolina, Asheville Division).

23. Declaration (August 2008) on behalf of the Sierra Club in the matter of Dominion Wise County plant MACT.us

24. Expert Report (June 2008) on behalf of Sierra Club for the Green Energy Resource Recovery Project, MACT Analysis.

25. Expert Report (February 2009) on behalf of Sierra Club and the Environmental Integrity Project in the matter of the air permit challenge for NRG Limestone's proposed Unit 3 in Texas.

26. Expert Report (June 2009) on behalf of MTD Products, Inc., in the matter of *Alice Holmes and Vernon Holmes v. Home Depot USA, Inc., et al.*

27. Expert Report (August 2009) on behalf of Sierra Club and the Southern Environmental Law Center in the matter of the air permit challenge for Santee Cooper's proposed Pee Dee plant in South Carolina).

28. Statements (May 2008 and September 2009) on behalf of the Minnesota Center for Environmental Advocacy to the Minnesota Pollution Control Agency in the matter of the Minnesota Haze State Implementation Plans.

29. Expert Report (August 2009) on behalf of Environmental Defense, in the matter of permit challenges to the proposed Las Brisas coal fired power plant project at the Texas State Office of Administrative Hearings (SOAH).

30. Expert Report and Rebuttal Report (September 2009) on behalf of the Sierra Club, in the matter of challenges to the proposed Medicine Bow Fuel and Power IGL plant in Cheyenne, Wyoming.

31. Expert Report (December 2009) and Rebuttal reports (May 2010 and June 2010) on behalf of the United States in connection with the Alabama Power Company NSR Case. *United States v. Alabama Power Company*, CV-01-HS-152-S (Northern District of Alabama, Southern Division).

32. Pre-filed Testimony (October 2009) on behalf of Environmental Defense and others, in the matter of challenges to the proposed White Stallion Energy Center coal fired power plant project at the Texas State Office of Administrative Hearings (SOAH).

33. Pre-filed Testimony (July 2010) and Written Rebuttal Testimony (August 2010) on behalf of the State of New Mexico Environment Department in the matter of Proposed Regulation 20.2.350 NMAC – *Greenhouse Gas Cap and Trade Provisions,* No. EIB 10-04 (R), to the State of New Mexico, Environmental Improvement Board.

34. Expert Report (August 2010) and Rebuttal Expert Report (October 2010) on behalf of the United States in connection with the Louisiana Generating NSR

Case. *United States v. Louisiana Generating, LLC*, 09-CV100-RET-CN (Middle District of Louisiana) – Liability Phase.

35. Declaration (August 2010), Reply Declaration (November 2010), Expert Report (April 2011), Supplemental and Rebuttal Expert Report (July 2011) on behalf of the United States in the matter of DTE Energy Company and Detroit Edison Company (Monroe Unit 2). *United States of America v. DTE Energy Company and Detroit Edison Company*, Civil Action No. 2:10-cv-13101-BAF-RSW (Eastern District of Michigan).

36. Expert Report and Deposition (August 2010) as well as Affidavit (September 2010) on behalf of Kentucky Waterways Alliance, Sierra Club, and Valley Watch in the matter of challenges to the NPDES permit issued for the Trimble County power plant by the Kentucky Energy and Environment Cabinet to Louisville Gas and Electric, File No. DOW-41106-047.

37. Expert Report (August 2010), Rebuttal Expert Report (September 2010), Supplemental Expert Report (September 2011), and Declaration (November 2011) on behalf of Wild Earth Guardians in the matter of opacity exceedances and monitor downtime at the Public Service Company of Colorado (Xcel)'s Cherokee power plant. No. 09-cv-1862 (District of Colorado).

38. Written Direct Expert Testimony (August 2010) and Affidavit (February 2012) on behalf of Fall-Line Alliance for a Clean Environment and others in the matter of the PSD Air Permit for Plant Washington issued by Georgia DNR at the Office of State Administrative Hearing, State of Georgia (OSAH-BNR-AQ-1031707-98-WALKER).

39. Deposition (August 2010) on behalf of Environmental Defense, in the matter of the remanded permit challenge to the proposed Las Brisas coal fired power plant project at the Texas State Office of Administrative Hearings (SOAH).

40. Expert Report, Supplemental/Rebuttal Expert Report, and Declarations (October 2010, November 2010, September 2012) on behalf of New Mexico Environment Department (Plaintiff-Intervenor), Grand Canyon Trust and Sierra Club (Plaintiffs) in the matter of *Plaintiffs v. Public Service Company of New Mexico* (PNM), Civil No. 1:02-CV-0552 BB/ATC (ACE) (District of New Mexico).

41. Expert Report (October 2010) and Rebuttal Expert Report (November 2010) (BART Determinations for PSCo Hayden and CSU Martin Drake units) to the Colorado Air Quality Commission on behalf of Coalition of Environmental Organizations.

42. Expert Report (November 2010) (BART Determinations for TriState Craig Units, CSU Nixon Unit, and PRPA Rawhide Unit) to the Colorado Air Quality Commission on behalf of Coalition of Environmental Organizations.

43. Declaration (November 2010) on behalf of the Sierra Club in connection with the Martin Lake Station Units 1, 2, and 3. *Sierra Club v. Energy Future Holdings Corporation and Luminant Generation Company LLC*, Case No. 5:10-cv-00156-DF-CMC (Eastern District of Texas, Texarkana Division).

44. Pre-Filed Testimony (January 2011) and Declaration (February 2011) to the Georgia Office of State Administrative Hearings (OSAH) in the matter of Minor Source HAPs status for the proposed Longleaf Energy Associates power plant (OSAH-BNR-AQ-1115157-60-HOWELLS) on behalf of the Friends of the Chattahoochee and the Sierra Club).

45. Declaration (February 2011) in the matter of the Draft Title V Permit for RRI Energy MidAtlantic Power Holdings LLC Shawville Generating Station (Pennsylvania), ID No. 17-00001 on behalf of the Sierra Club.

46. Expert Report (March 2011), Rebuttal Expert Report (June 2011) on behalf of the United States in *United States of America v. Cemex, Inc.*, Civil Action No. 09-cv-00019-MSK-MEH (District of Colorado).

47. Declaration (April 2011) and Expert Report (July 16, 2012) in the matter of the Lower Colorado River Authority (LCRA)'s Fayette (Sam Seymour) Power Plant on behalf of the Texas Campaign for the Environment. *Texas Campaign for the Environment v. Lower Colorado River Authority,* Civil Action No. 4:11-cv-00791 (Southern District of Texas, Houston Division).

48. Declaration (June 2011) on behalf of the Plaintiffs MYTAPN in the matter of Microsoft-Yes, Toxic Air Pollution-No (MYTAPN) v. State of Washington, Department of Ecology and Microsoft Corporation Columbia Data Center to the Pollution Control Hearings Board, State of Washington, Matter No. PCHB No. 10-162.

49. Expert Report (June 2011) on behalf of the New Hampshire Sierra Club at the State of New Hampshire Public Utilities Commission, Docket No. 10-261 – the 2010 Least Cost Integrated Resource Plan (LCIRP) submitted by the Public Service Company of New Hampshire (re. Merrimack Station Units 1 and 2).

50. Declaration (August 2011) in the matter of the Sandy Creek Energy Associates L.P. Sandy Creek Power Plant on behalf of Sierra Club and Public Citizen. *Sierra Club, Inc. and Public Citizen, Inc. v. Sandy Creek Energy Associates, L.P.,* Civil Action No. A-08-CA-648-LY (Western District of Texas, Austin Division).

51. Expert Report (October 2011) on behalf of the Defendants in the matter of *John Quiles and Jeanette Quiles et al. v. Bradford-White Corporation, MTD Products, Inc., Kohler Co., et al.,* Case No. 3:10-cv-747 (TJM/DEP) (Northern District of New York).

52. Declaration (October 2011) on behalf of the Plaintiffs in the matter of *American Nurses Association et. al. (Plaintiffs), v. US EPA (Defendant)*, Case No. 1:08-cv-02198-RMC (US District Court for the District of Columbia).

53. Declaration (February 2012) and Second Declaration (February 2012) in the matter of *Washington Environmental Council and Sierra Club Washington State Chapter v. Washington State Department of Ecology and Western States Petroleum Association,* Case No. 11-417-MJP (Western District of Washington).

54. Expert Report (March 2012) and Supplemental Expert Report (November 2013) in the matter of *Environment Texas Citizen Lobby, Inc and Sierra Club v.*

ExxonMobil Corporation et al., Civil Action No. 4:10-cv-4969 (Southern District of Texas, Houston Division).

55. Declaration (March 2012) in the matter of *Center for Biological Diversity, et al. v. United States Environmental Protection Agency,* Case No. 11-1101 (consolidated with 11-1285, 11-1328 and 11-1336) (US Court of Appeals for the District of Columbia Circuit).

56. Declaration (March 2012) in the matter of *Sierra Club v. The Kansas Department of Health and Environment*, Case No. 11-105,493-AS (Holcomb power plant) (Supreme Court of the State of Kansas).

57. Declaration (March 2012) in the matter of the Las Brisas Energy Center *Environmental Defense Fund et al., v. Texas Commission on Environmental Quality,* Cause No. D-1-GN-11-001364 (District Court of Travis County, Texas, 261st Judicial District).

58. Expert Report (April 2012), Supplemental and Rebuttal Expert Report (July 2012), and Supplemental Rebuttal Expert Report (August 2012) on behalf of the states of New Jersey and Connecticut in the matter of the Portland Power plant *State of New Jersey and State of Connecticut (Intervenor-Plaintiff) v. RRI Energy Mid-Atlantic Power Holdings et al.,* Civil Action No. 07-CV-5298 (JKG) (Eastern District of Pennsylvania).

59. Declaration (April 2012) in the matter of the EPA's EGU MATS Rule, on behalf of the Environmental Integrity Project.

60. Expert Report (August 2012) on behalf of the United States in connection with the Louisiana Generating NSR Case. *United States v. Louisiana Generating, LLC*, 09-CV100-RET-CN (Middle District of Louisiana) – Harm Phase.

61. Declaration (September 2012) in the Matter of the Application of *Energy Answers Incinerator, Inc.* for a Certificate of Public Convenience and Necessity to Construct a 120 MW Generating Facility in Baltimore City, Maryland, before the Public Service Commission of Maryland, Case No. 9199.

62. Expert Report (October 2012) on behalf of the Appellants (Robert Concilus and Leah Humes) in the matter of Robert Concilus and Leah Humes v. Commonwealth of Pennsylvania Department of Environmental Protection and Crawford Renewable Energy, before the Commonwealth of Pennsylvania Environmental Hearing Board, Docket No. 2011-167-R.

63. Expert Report (October 2012), Supplemental Expert Report (January 2013), and Affidavit (June 2013) in the matter of various Environmental Petitioners v. North Carolina DENR/DAQ and Carolinas Cement Company, before the Office of Administrative Hearings, State of North Carolina.

64. Pre-filed Testimony (October 2012) on behalf of No-Sag in the matter of the North Springfield Sustainable Energy Project before the State of Vermont, Public Service Board.

65. Pre-filed Testimony (November 2012) on behalf of Clean Wisconsin in the matter of Application of Wisconsin Public Service Corporation for Authority to

Construct and Place in Operation a New Multi-Pollutant Control Technology System (ReACT) for Unit 3 of the Weston Generating Station, before the Public Service Commission of Wisconsin, Docket No. 6690-CE-197.

66. Expert Report (February 2013) on behalf of Petitioners in the matter of Credence Crematory, Cause No. 12-A-J-4538 before the Indiana Office of Environmental Adjudication.

67. Expert Report (April 2013), Rebuttal report (July 2013), and Declarations (October 2013, November 2013) on behalf of the Sierra Club in connection with the Luminant Big Brown Case. *Sierra Club v. Energy Future Holdings Corporation and Luminant Generation Company LLC*, Civil Action No. 6:12-cv-00108-WSS (Western District of Texas, Waco Division).

68. Declaration (April 2013) on behalf of Petitioners in the matter of *Sierra Club, et al., (Petitioners) v Environmental Protection Agency et al. (Resppondents),* Case No., 13-1112, (Court of Appeals, District of Columbia Circuit).

69. Expert Report (May 2013) and Rebuttal Expert Report (July 2013) on behalf of the Sierra Club in connection with the Luminant Martin Lake Case. *Sierra Club v. Energy Future Holdings Corporation and Luminant Generation Company LLC*, Civil Action No. 5:10-cv-0156-MHS-CMC (Eastern District of Texas, Texarkana Division).

70. Declaration (August 2013) on behalf of A. J. Acosta Company, Inc., in the matter of *A. J. Acosta Company, Inc., v. County of San Bernardino*, Case No. CIVSS803651.

71. Comments (October 2013) on behalf of the Washington Environmental Council and the Sierra Club in the matter of the Washington State Oil Refinery RACT (for Greenhouse Gases), submitted to the Washington State Department of Ecology, the Northwest Clean Air Agency, and the Puget Sound Clean Air Agency.

72. Statement (November 2013) on behalf of various Environmental Organizations in the matter of the Boswell Energy Center (BEC) Unit 4 Environmental Retrofit Project, to the Minnesota Public Utilities Commission, Docket No. E-015/M-12-920.

73. Expert Report (December 2013) on behalf of the United States in *United States of America v. Ameren Missouri*, Civil Action No. 4:11-cv-00077-RWS (Eastern District of Missouri, Eastern Division).

74. Expert Testimony (December 2013) on behalf of the Sierra Club in the matter of Public Service Company of New Hampshire Merrimack Station Scrubber Project and Cost Recovery, Docket No. DE 11-250, to the State of New Hampshire Public Utilities Commission.

75. Expert Report (January 2014) on behalf of Baja, Inc., in *Baja, Inc., v. Automotive Testing and Development Services, Inc. et. al*, Civil Action No. 8:13-CV-02057-GRA (District of South Carolina, Anderson/Greenwood Division).

76. Declaration (March 2014) on behalf of the Center for International Environmental Law, Chesapeake Climate Action Network, Friends of the Earth, Pacific

Environment, and the Sierra Club (Plaintiffs) in the matter of *Plaintiffs v. the Export-Import Bank (Ex-Im Bank) of the United States*, Civil Action No. 13-1820 RC (District Court for the District of Columbia).

77. Declaration (April 2014) on behalf of Respondent-Intervenors in the matter of *Mexichem Specialty Resins Inc., et al., (Petitioners) v Environmental Protection Agency et al.,* Case No., 12-1260 (and Consolidated Case Nos. 12-1263, 12-1265, 12-1266, and 12-1267), (Court of Appeals, District of Columbia Circuit).

78. Direct Prefiled Testimony (June 2014) on behalf of the Michigan Environmental Council and the Sierra Club in the matter of the Application of DTE Electric Company for Authority to Implement a Power Supply Cost Recovery (PSCR) Plan in its Rate Schedules for 2014 Metered Jurisdictional Sales of Electricity, Case No. U-17319 (Michigan Public Service Commission).

79. Expert Report (June 2014) on behalf of ECM Biofilms in the matter of the US Federal Trade Commission (FTC) v. ECM Biofilms (FTC Docket #9358).

80. Direct Prefiled Testimony (August 2014) on behalf of the Michigan Environmental Council and the Sierra Club in the matter of the Application of Consumers Energy Company for Authority to Implement a Power Supply Cost Recovery (PSCR) Plan in its Rate Schedules for 2014 Metered Jurisdictional Sales of Electricity, Case No. U-17317 (Michigan Public Service Commission).

81. Declaration (July 2014) on behalf of Public Health Intervenors in the matter of *EME Homer City Generation v. US EPA* (Case No. 11-1302 and consolidated cases) relating to the lifting of the stay entered by the Court on December 30, 2011 (US Court of Appeals for the District of Columbia).

82. Expert Report (September 2014), Rebuttal Expert Report (December 2014) and Supplemental Expert Report (March 2015) on behalf of Plaintiffs in the matter of *Sierra Club and Montana Environmental Information Center (Plaintiffs) v. PPL Montana LLC, Avista Corporation, Puget Sound Energy, Portland General Electric Company, Northwestern Corporation, and Pacificorp (Defendants)*, Civil Action No. CV 13-32-BLG-DLC-JCL (US District Court for the District of Montana, Billings Division).

83. Expert Report (November 2014) on behalf of Niagara County, the Town of Lewiston, and the Villages of Lewiston and Youngstown in the matter of CWM Chemical Services, LLC New York State Department of Environmental Conservation (NYSDEC) Permit Application Nos.: 9-2934-00022/00225, 9-2934-00022/00231, 9-2934-00022/00232, and 9-2934-00022/00249 (pending).

84. *Declaration (January 2015) relating to Startup/Shutdown in the MATS Rule (EPA Docket ID No. EPA-HQ-OAR-2009-0234) on behalf of the Environmental Integrity Project.*

85. Pre-filed Direct Testimony (March 2015), Supplemental Testimony (May 2015), and Surrebuttal Testimony (December 2015) on behalf of Friends of the Columbia Gorge in the matter of the Application for a Site Certificate for the Troutdale Energy Center before the Oregon Energy Facility Siting Council.

86. Brief of Amici Curiae Experts in Air Pollution Control and Air Quality Regulation in Support of the Respondents, On Writs of Certiorari to the US Court of Appeals for the District of Columbia, No. 14-46, 47, 48. *Michigan et. al., (Petitioners) v. EPA et. al., Utility Air Regulatory Group (Petitioners) v. EPA et. al., National Mining Association et. al., (Petitioner) v. EPA et. al.,* (Supreme Court of the United States).

87. Expert Report (March 2015) and Rebuttal Expert Report (January 2016) on behalf of Plaintiffs in the matter of *Conservation Law Foundation v. Broadrock Gas Services LLC, Rhode Island LFG GENCO LLC, and Rhode Island Resource Recovery Corporation (Defendants)*, Civil Action No. 1:13-cv-00777-M-PAS (US District Court for the District of Rhode Island).

88. Declaration (April 2015) relating to various Technical Corrections for the MATS Rule (EPA Docket ID No. EPA-HQ-OAR-2009-0234) on behalf of the Environmental Integrity Project.

89. Direct Prefiled Testimony (May 2015) on behalf of the Michigan Environmental Council, the Natural Resources Defense Council, and the Sierra Club in the matter of the Application of DTE Electric Company for Authority to Increase its Rates, Amend its Rate Schedules and Rules Governing the Distribution and Supply of Electric Energy and for Miscellaneous Accounting Authority, Case No. U-17767 (Michigan Public Service Commission).

90. Expert Report (July 2015) and Rebuttal Expert Report (July 2015) on behalf of Plaintiffs in the matter of *Northwest Environmental Defense Center et. al., v. Cascade Kelly Holdings LLC, d/b/a Columbia Pacific Bio-Refinery, and Global Partners LP (Defendants)*, Civil Action No. 3:14-cv-01059-SI (US District Court for the District of Oregon, Portland Division).

91. Declaration (August 2015, Docket No. 1570376) in support of "Opposition of Respondent-Intervenors American Lung Association, et. al., to Tri-State Generation's Emergency Motion;" Declaration (September 2015, Docket No. 1574820) in support of "Joint Motion of the State, Local Government, and Public Health Respondent-Intervenors for Remand Without Vacatur;" Declaration (October 2015) in support of "Joint Motion of the State, Local Government, and Public Health Respondent-Intervenors to State and Certain Industry Petitioners' Motion to Govern, *White Stallion Energy Center, LLC v. US EPA*, Case No. 12-1100 (US Court of Appeals for the District of Columbia).

92. Declaration (September 2015) in support of the Draft Title V Permit for Dickerson Generating Station (Proposed Permit No 24-031-0019) on behalf of the Environmental Integrity Project.

93. Expert Report (Liability Phase) (December 2015) and Rebuttal Expert Report (February 2016) on behalf of Plaintiffs in the matter of *Natural Resources Defense Council, Inc., Sierra Club, Inc., Environmental Law and Policy Center, and Respiratory Health Association v. Illinois Power Resources LLC, and Illinois Power Resources Generating LLC (Defendants)*, Civil Action No. 1:13-cv-01181 (US District Court for the Central District of Illinois, Peoria Division).

94. Declaration (December 2015) in support of the Petition to Object to the Title V Permit for Morgantown Generating Station (Proposed Permit No 24-017-0014) on behalf of the Environmental Integrity Project.

95. Expert Report (November 2015) on behalf of Appellants in the matter of *Sierra Club, et al. v. Craig W. Butler, Director of Ohio Environmental Protection Agency et al.,* ERAC Case No. 14-256814.

96. Affidavit (January 2016) on behalf of Bridgewatch Detroit in the matter of *Bridgewatch Detroit v. Waterfront Petroleum Terminal Co., and Waterfront Terminal Holdings, LLC.*, in the Circuit Court for the County of Wayne, State of Michigan.

97. Expert Report (February 2016) and Rebuttal Expert Report (July 2016) on behalf of the challengers in the matter of the Delaware Riverkeeper Network, Clean Air Council, et. al., vs. Commonwealth of Pennsylvania Department of Environmental Protection and R. E. Gas Development LLC regarding the Geyer well site before the Pennsylvania Environmental Hearing Board.

98. Direct Testimony (May 2016) in the matter of Tesoro Savage LLC Vancouver Energy Distribution Terminal, Case No. 15-001 before the State of Washington Energy Facility Site Evaluation Council.

99. Declaration (June 2016) relating to deficiencies in air quality analysis for the proposed Millenium Bulk Terminal, Port of Longview, Washington.

100. Declaration (December 2016) relating to EPA's refusal to set limits on PM emissions from coal-fired power plants that reflect pollution reductions achievable with fabric filters on behalf of Environmental Integrity Project, Clean Air Council, Chesapeake Climate Action Network, Downwinders at Risk represented by Earthjustice in the matter of *ARIPPA v EPA, Case No. 15-1180.* (D.C. Circuit Court of Appeals).

101. Expert Report (January 2017) on the Environmental Impacts Analysis associated with the Huntley and Huntley Poseidon Well Pad on behalf citizens in the matter of the special exception use Zoning Hearing Board of Penn Township, Westmoreland County, Pennsylvania.

102. Expert Report (January 2017) on the Environmental Impacts Analysis associated with the Apex Energy Backus Well Pad on behalf citizens in the matter of the special exception use Zoning Hearing Board of Penn Township, Westmoreland County, Pennsylvania.

103. Expert Report (January 2017) on the Environmental Impacts Analysis associated with the Apex Energy Drakulic Well Pad on behalf citizens in the matter of the special exception use Zoning Hearing Board of Penn Township, Westmoreland County, Pennsylvania.

104. Expert Report (January 2017) on the Environmental Impacts Analysis associated with the Apex Energy Deutsch Well Pad on behalf citizens in the matter of the special exception use Zoning Hearing Board of Penn Township, Westmoreland County, Pennsylvania.

105. Affidavit (February 2017) pertaining to deficiencies water discharge compliance issues at the Wood River Refinery in the matter of *People of the State of Illinois (Plaintiff) v. Phillips 66 Company, ConocoPhillips Company, WRB Refining LP (Defendants)*, Case No. 16-CH-656, (Circuit Court for the Third Judicial Circuit, Madison County, Illinois).

106. Expert Report (March 2017) on behalf of the Plaintiff pertaining to non-degradation analysis for waste water discharges from a power plant in the matter of *Sierra Club (Plaintiff) v. Pennsylvania Department of Environmental Protection (PADEP) and Lackawanna Energy Center*, Docket No. 2016-047-L (consolidated), (Pennsylvania Environmental Hearing Board).

107. Expert Report (March 2017) on behalf of the Plaintiff pertaining to air emissions from the Heritage incinerator in East Liverpool, Ohio in the matter of *Save our County (Plaintiff) v. Heritage Thermal Services, Inc. (Defendant), Case No. 4:16-CV-1544-BYP*, (US District Court for the Northern District of Ohio, Eastern Division).

108. Rebuttal Expert Report (June 2017) on behalf of Plaintiffs in the matter of *Casey Voight and Julie Voight (Plaintiffs) v Coyote Creek Mining Company LLC (Defendant),* Civil Action No. 1:15-CV-00109 (US District Court for the District of North Dakota, Western Division).

109. Expert Affidavit (August 2017) and Penalty/Remedy Expert Affidavit (October 2017) on behalf of Plaintiff in the matter of *Wildearth Guardians (Plaintiff) v Colorado Springs Utility Board (Defendant,)* Civil Action No. 1:15-cv-00357-CMA-CBS (US District Court for the District of Colorado).

110. Expert Report (August 2017) on behalf of Appellant in the matter of *Patricia Ann Troiano (Appellant) v. Upper Burrell Township Zoning Hearing Board (Appellee)*, Court of Common Pleas of Westmoreland County, Pennsylvania, Civil Division.

111. Expert Report (October 2017), Supplemental Expert Report (October 2017), and Rebuttal Expert Report (November 2017) on behalf of Defendant in the matter of *Oakland Bulk and Oversized Terminal (Plaintiff) v City of Oakland (Defendant,)* Civil Action No. 3:16-cv-07014-VC (US District Court for the Northern District of California, San Francisco Division).

112. Declaration (December 2017) on behalf of the Environmental Integrity Project in the matter of permit issuance for ATI Flat Rolled Products Holdings, Breckenridge, PA to the Allegheny County Health Department.

113. Expert Report (Harm Phase) (January 2018), Rebuttal Expert Report (Harm Phase) (May 2018) and Supplemental Expert Report (Harm Phase) (April 2019) on behalf of Plaintiffs in the matter of *Natural Resources Defense Council, Inc., Sierra Club, Inc., and Respiratory Health Association v. Illinois Power Resources LLC, and Illinois Power Resources Generating LLC (Defendants)*, Civil Action No. 1:13-cv-01181 (US District Court for the Central District of Illinois, Peoria Division).

114. Declaration (February 2018) on behalf of the Chesapeake Bay Foundation, et. al., in the matter of the Section 126 Petition filed by the state of Maryland in *State of*

Maryland v. Pruitt (Defendant), Civil Action No. JKB-17-2939 (Consolidated with No. JKB-17-2873) (US District Court for the District of Maryland).

115. Direct Pre-filed Testimony (March 2018) on behalf of the National Parks Conservation Association (NPCA) in the matter of *NPCA v State of Washington, Department of Ecology and BP West Coast Products, LLC*, PCHB No. 17-055 (Pollution Control Hearings Board for the State of Washington.

116. Expert Affidavit (April 2018) and Second Expert Affidavit (May 2018) on behalf of Petitioners in the matter of *Coosa River Basin Initiative and Sierra Club (Petitioners) v State of Georgia Environmental Protection Division, Georgia Department of Natural Resources (Respondent) and Georgia Power Company (Intervenor/Respondent)*, Docket Nos: 1825406-BNR-WW-57-Howells and 1826761-BNR-WW-57-Howells, Office of State Administrative Hearings, State of Georgia.

117. Direct Pre-filed Testimony and Affidavit (December 2018) on behalf of Sierra Club and Texas Campaign for the Environment (Appellants) in the contested case hearing before the Texas State Office of Administrative Hearings in Docket Nos. 582-18-4846, 582-18-4847 (Application of GCGV Asset Holding, LLC for Air Quality Permit Nos. 146425/PSDTX1518 and 146459/PSDTX1520 in San Patricio County, Texas).

118. Expert Report (February 2019) on behalf of Sierra Club in the State of Florida, Division of Administrative Hearings, Case No. 18-2124EPP, Tampa Electric Company Big Bend Unit 1 Modernization Project Power Plant Siting Application No. PA79-12-A2.

119. Declaration (March 2019) on behalf of Earthjustice in the matter of comments on the renewal of the Title V Federal Operating Permit for Valero Houston refinery.

120. Expert Report (March 2019) on behalf of Plaintiffs for Class Certification in the matter of *Resendez et al v Precision Castparts Corporation* in the Circuit Court for the State of Oregon, County of Multnomah, Case No. 16cv16164.

121. Expert Report (June 2019), Affidavit (July 2019) and Rebuttal Expert Report (September 2019) on behalf of Appellants relating to the NPDES permit for the Cheswick power plant in the matter of *Three Rivers Waterkeeper and Sierra Club (Appellees) v. State of Pennsylvania Department of Environmental Protection (Appellee) and NRG Power Midwest (Permittee)*, before the Commonwealth of Pennsylvania Environmental Hearing Board, EHB Docket No. 2018-088-R.

122. Affidavit/Expert Report (August 2019) relating to the appeal of air permits issued to PTTGCA on behalf of Appellants in the matter of *Sierra Club (Appellants) v. Craig Butler, Director, et. al., Ohio EPA (Appellees)* before the State of Ohio Environmental Review Appeals Commission (ERAC), Case Nos. ERAC-19-6988 through -6991.

123. Expert Report (October 2019) relating to the appeal of air permit (Plan Approval) on behalf of Appellants in the matter of *Clean Air Council and Environmental Integrity Project (Appellants) v. Commonwealth of Pennsylvania Department of Environmental Protection and Sunoco Partners Marketing and Terminals L.P.*,

before the Commonwealth of Pennsylvania Environmental Hearing Board, EHB Docket No. 2018-057-L.

124. Expert Report (December 2019) on behalf of Earthjustice in the matter of *Objection to the Issuance of PSD/NSR and Title V permits for Riverview Energy Corporation*, Dale, Indiana, before the Indiana Office of Environmental Adjudication, Cause No. 19-A-J-5073.

125. Affidavit (December 2019) on behalf of Plaintiff-Intervenor (Surfrider Foundation) in the matter of *United States and the State of Indiana (Plaintiffs), Surfrider Foundation (Plaintiff-Intervenor), and City of Chicago (Plaintiff-Intervenor) v. United States Steel Corporation (Defendant),* Civil Action No. 2:18-cv-00127 (US District Court for the Northern District of Indiana, Hammond Division).

126. Declaration (February 2020) in support of Petitioner's Motion for Stay of PSCAA NOC Order of Approval No. 11386 in the matter of the *Puyallup Tribe of Indians v. Puget Sound Clean Air Agency (PSCAA) and Puget Sound Energy (PSE), before the State of Washington Pollution Control Hearings Board*, PCHB No. P19-088.

C. Occasions where Dr. Sahu has provided oral testimony <u>in depositions, at trial or in similar proceedings</u> include the following:

127. Deposition on behalf of Rocky Mountain Steel Mills, Inc. located in Pueblo, Colorado – dealing with the manufacture of steel in mini-mills including methods of air pollution control and BACT in steel mini-mills and opacity issues at this steel mini-mill.

128. Trial Testimony (February 2002) on behalf of Rocky Mountain Steel Mills, Inc. in Denver District Court.

129. Trial Testimony (February 2003) on behalf of the United States in the Ohio Edison NSR Cases, *United States, et al. v. Ohio Edison Co., et al.*, C2-99-1181 (Southern District of Ohio).

130. Trial Testimony (June 2003) on behalf of the United States in the Illinois Power NSR Case, *United States v. Illinois Power Co., et al.*, 99-833-MJR (Southern District of Illinois).

131. Deposition (10/20/2005) on behalf of the United States in connection with the Cinergy NSR Case. *United States, et* al. *v. Cinergy Corp., et al.*, IP 99-1693-C-M/S (Southern District of Indiana).

132. Oral Testimony (August 2006) on behalf of the Appalachian Center for the Economy and the Environment re. the Western Greenbrier plant, WV before the West Virginia DEP.

133. Oral Testimony (May 2007) on behalf of various Montana petitioners (Citizens Awareness Network (CAN), Women's Voices for the Earth (WVE) and the Clark

Fork Coalition (CFC)) re. the Thompson River Cogeneration plant before the Montana Board of Environmental Review.

134. Oral Testimony (October 2007) on behalf of the Sierra Club re. the Sevier Power Plant before the Utah Air Quality Board.

135. Oral Testimony (August 2008) on behalf of the Sierra Club and Clean Water re. Big Stone Unit II before the South Dakota Board of Minerals and the Environment.

136. Oral Testimony (February 2009) on behalf of the Sierra Club and the Southern Environmental Law Center re. Santee Cooper Pee Dee units before the South Carolina Board of Health and Environmental Control.

137. Oral Testimony (February 2009) on behalf of the Sierra Club and the Environmental Integrity Project re. NRG Limestone Unit 3 before the Texas State Office of Administrative Hearings (SOAH) Administrative Law Judges.

138. Deposition (July 2009) on behalf of MTD Products, Inc., in the matter of *Alice Holmes and Vernon Holmes v. Home Depot USA, Inc., et al*.

139. Deposition (October 2009) on behalf of Environmental Defense and others, in the matter of challenges to the proposed Coleto Creek coal fired power plant project at the Texas State Office of Administrative Hearings (SOAH).

140. Deposition (October 2009) on behalf of Environmental Defense, in the matter of permit challenges to the proposed Las Brisas coal fired power plant project at the Texas State Office of Administrative Hearings (SOAH).

141. Deposition (October 2009) on behalf of the Sierra Club, in the matter of challenges to the proposed Medicine Bow Fuel and Power IGL plant in Cheyenne, Wyoming.

142. Deposition (October 2009) on behalf of Environmental Defense and others, in the matter of challenges to the proposed Tenaska coal fired power plant project at the Texas State Office of Administrative Hearings (SOAH). (April 2010).

143. Oral Testimony (November 2009) on behalf of the Environmental Defense Fund re. the Las Brisas Energy Center before the Texas State Office of Administrative Hearings (SOAH) Administrative Law Judges.

144. Deposition (December 2009) on behalf of Environmental Defense and others, in the matter of challenges to the proposed White Stallion Energy Center coal fired power plant project at the Texas State Office of Administrative Hearings (SOAH).

145. Oral Testimony (February 2010) on behalf of the Environmental Defense Fund re. the White Stallion Energy Center before the Texas State Office of Administrative Hearings (SOAH) Administrative Law Judges.

146. Deposition (June 2010) on behalf of the United States in connection with the Alabama Power Company NSR Case. *United States v. Alabama Power Company*, CV-01-HS-152-S (Northern District of Alabama, Southern Division).

147. Trial Testimony (September 2010) on behalf of Commonwealth of Pennsylvania – Dept. of Environmental Protection, State of Connecticut, State of New York, State of Maryland, and State of New Jersey (Plaintiffs) in connection with the Allegheny Energy NSR Case in US District Court in the Western District of Pennsylvania. *Plaintiffs v. Allegheny Energy Inc., et al.,* 2:05cv0885 (Western District of Pennsylvania).

148. Oral Direct and Rebuttal Testimony (September 2010) on behalf of Fall-Line Alliance for a Clean Environment and others in the matter of the PSD Air Permit for Plant Washington issued by Georgia DNR at the Office of State Administrative Hearing, State of Georgia (OSAH-BNR-AQ-1031707-98-WALKER).

149. Oral Testimony (September 2010) on behalf of the State of New Mexico Environment Department in the matter of Proposed Regulation 20.2.350 NMAC – *Greenhouse Gas Cap and Trade Provisions,* No. EIB 10-04 (R), to the State of New Mexico, Environmental Improvement Board.

150. Oral Testimony (October 2010) on behalf of the Environmental Defense Fund re. the Las Brisas Energy Center before the Texas State Office of Administrative Hearings (SOAH) Administrative Law Judges.

151. Oral Testimony (November 2010) regarding BART for PSCo Hayden, CSU Martin Drake units before the Colorado Air Quality Commission on behalf of the Coalition of Environmental Organizations.

152. Oral Testimony (December 2010) regarding BART for TriState Craig Units, CSU Nixon Unit, and PRPA Rawhide Unit) before the Colorado Air Quality Commission on behalf of the Coalition of Environmental Organizations.

153. Deposition (December 2010) on behalf of the United States in connection with the Louisiana Generating NSR Case. *United States v. Louisiana Generating, LLC*, 09-CV100-RET-CN (Middle District of Louisiana).

154. Deposition (February 2011 and January 2012) on behalf of Wild Earth Guardians in the matter of opacity exceedances and monitor downtime at the Public Service Company of Colorado (Xcel)'s Cherokee power plant. No. 09-cv-1862 (D. Colo.).

155. Oral Testimony (February 2011) to the Georgia Office of State Administrative Hearings (OSAH) in the matter of Minor Source HAPs status for the proposed Longleaf Energy Associates power plant (OSAH-BNR-AQ-1115157-60-HOWELLS) on behalf of the Friends of the Chattahoochee and the Sierra Club).

156. Deposition (August 2011) on behalf of the United States in *United States of America v. Cemex, Inc.*, Civil Action No. 09-cv-00019-MSK-MEH (District of Colorado).

157. Deposition (July 2011) and Oral Testimony at Hearing (February 2012) on behalf of the Plaintiffs MYTAPN in the matter of Microsoft-Yes, Toxic Air Pollution-No (MYTAPN) v. State of Washington, Department of Ecology and Microsoft Corporation Columbia Data Center to the Pollution Control Hearings Board, State of Washington, Matter No. PCHB No. 10-162.

158. Oral Testimony at Hearing (March 2012) on behalf of the United States in connection with the Louisiana Generating NSR Case. *United States v. Louisiana Generating, LLC*, 09-CV100-RET-CN (Middle District of Louisiana).

159. Oral Testimony at Hearing (April 2012) on behalf of the New Hampshire Sierra Club at the State of New Hampshire Public Utilities Commission, Docket No. 10-261 – the 2010 Least Cost Integrated Resource Plan (LCIRP) submitted by the Public Service Company of New Hampshire (re. Merrimack Station Units 1 and 2).

160. Oral Testimony at Hearing (November 2012) on behalf of Clean Wisconsin in the matter of Application of Wisconsin Public Service Corporation for Authority to Construct and Place in Operation a New Multi-Pollutant Control Technology System (ReACT) for Unit 3 of the Weston Generating Station, before the Public Service Commission of Wisconsin, Docket No. 6690-CE-197.

161. Deposition (March 2013) in the matter of various Environmental Petitioners v. North Carolina DENR/DAQ and Carolinas Cement Company, before the Office of Administrative Hearings, State of North Carolina.

162. Deposition (August 2013) on behalf of the Sierra Club in connection with the Luminant Big Brown Case. *Sierra Club v. Energy Future Holdings Corporation and Luminant Generation Company LLC*, Civil Action No. 6:12-cv-00108-WSS (Western District of Texas, Waco Division).

163. Deposition (August 2013) on behalf of the Sierra Club in connection with the Luminant Martin Lake Case. *Sierra Club v. Energy Future Holdings Corporation and Luminant Generation Company LLC*, Civil Action No. 5:10-cv-0156-MHS-CMC (Eastern District of Texas, Texarkana Division).

164. Deposition (February 2014) on behalf of the United States in *United States of America v. Ameren Missouri*, Civil Action No. 4:11-cv-00077-RWS (Eastern District of Missouri, Eastern Division).

165. Trial Testimony (February 2014) in the matter of *Environment Texas Citizen Lobby, Inc and Sierra Club v. ExxonMobil Corporation et al.,* Civil Action No. 4:10-cv-4969 (Southern District of Texas, Houston Division).

166. Trial Testimony (February 2014) on behalf of the Sierra Club in connection with the Luminant Big Brown Case. *Sierra Club v. Energy Future Holdings Corporation and Luminant Generation Company LLC*, Civil Action No. 6:12-cv-00108-WSS (Western District of Texas, Waco Division).

167. Deposition (June 2014) and Trial (August 2014) on behalf of ECM Biofilms in the matter of the *US Federal Trade Commission (FTC) v. ECM Biofilms* (FTC Docket #9358).

168. Deposition (February 2015) on behalf of Plaintiffs in the matter of *Sierra Club and Montana Environmental Information Center (Plaintiffs) v. PPL Montana LLC, Avista Corporation, Puget Sound Energy, Portland General Electric Company, Northwestern Corporation, and Pacificorp (Defendants)*, Civil Action No. CV

13-32-BLG-DLC-JCL (US District Court for the District of Montana, Billings Division).

169. Oral Testimony at Hearing (April 2015) on behalf of Niagara County, the Town of Lewiston, and the Villages of Lewiston and Youngstown in the matter of CWM Chemical Services, LLC New York State Department of Environmental Conservation (NYSDEC) Permit Application Nos.: 9-2934-00022/00225, 9-2934-00022/00231, 9-2934-00022/00232, and 9-2934-00022/00249 (pending).

170. Deposition (August 2015) on behalf of Plaintiff in the matter of *Conservation Law Foundation (Plaintiff) v. Broadrock Gas Services LLC, Rhode Island LFG GENCO LLC, and Rhode Island Resource Recovery Corporation (Defendants)*, Civil Action No. 1:13-cv-00777-M-PAS (US District Court for the District of Rhode Island).

171. Testimony at Hearing (August 2015) on behalf of the Sierra Club in the matter of *Amendments to 35 Illinois Administrative Code Parts 214, 217, and 225* before the Illinois Pollution Control Board, R15-21.

172. Deposition (May 2015) on behalf of Plaintiffs in the matter of *Northwest Environmental Defense Center et. al., (Plaintiffs) v. Cascade Kelly Holdings LLC, d/b/a Columbia Pacific Bio-Refinery, and Global Partners LP (Defendants)*, Civil Action No. 3:14-cv-01059-SI (US District Court for the District of Oregon, Portland Division).

173. Trial Testimony (October 2015) on behalf of Plaintiffs in the matter of *Northwest Environmental Defense Center et. al., (Plaintiffs) v. Cascade Kelly Holdings LLC, d/b/a Columbia Pacific Bio-Refinery, and Global Partners LP (Defendants)*, Civil Action No. 3:14-cv-01059-SI (US District Court for the District of Oregon, Portland Division).

174. Deposition (April 2016) on behalf of the Plaintiffs in *UNatural Resources Defense Council, Respiratory Health Association, and Sierra Club (Plaintiffs) v. Illinois Power Resources LLC and Illinois Power Resources Generation LLC (Defendants)*, Civil Action No. 1:13-cv-01181 (Central District of Illinois, Peoria Division).

175. Trial Testimony at Hearing (July 2016) in the matter of Tesoro Savage LLC Vancouver Energy Distribution Terminal, Case No. 15-001 before the State of Washington Energy Facility Site Evaluation Council.

176. Trial Testimony (December 2016) on behalf of the challengers in the matter of the Delaware Riverkeeper Network, Clean Air Council, et. al., vs. Commonwealth of Pennsylvania Department of Environmental Protection and R. E. Gas Development LLC regarding the Geyer well site before the Pennsylvania Environmental Hearing Board.

177. Trial Testimony (July-August 2016) on behalf of the United States in *United States of America v. Ameren Missouri*, Civil Action No. 4:11-cv-00077-RWS (Eastern District of Missouri, Eastern Division).

178. Trial Testimony (January 2017) on the Environmental Impacts Analysis associated with the Huntley and Huntley Poseidon Well Pad Hearing on behalf citizens in the matter of the special exception use Zoning Hearing Board of Penn Township, Westmoreland County, Pennsylvania.

179. Trial Testimony (January 2017) on the Environmental Impacts Analysis associated with the Apex energy Backus Well Pad Hearing on behalf citizens in the matter of the special exception use Zoning Hearing Board of Penn Township, Westmoreland County, Pennsylvania.

180. Trial Testimony (January 2017) on the Environmental Impacts Analysis associated with the Apex energy Drakulic Well Pad Hearing on behalf citizens in the matter of the special exception use Zoning Hearing Board of Penn Township, Westmoreland County, Pennsylvania.

181. Trial Testimony (January 2017) on the Environmental Impacts Analysis associated with the Apex energy Deutsch Well Pad Hearing on behalf citizens in the matter of the special exception use Zoning Hearing Board of Penn Township, Westmoreland County, Pennsylvania.

182. Deposition Testimony (July 2017) on behalf of Plaintiffs in the matter of *Casey Voight and Julie Voight v Coyote Creek Mining Company LLC (Defendant)* Civil Action No. 1:15-CV-00109 (US District Court for the District of North Dakota, Western Division).

183. Deposition Testimony (November 2017) on behalf of Defendant in the matter of *Oakland Bulk and Oversized Terminal (Plaintiff) v City of Oakland (Defendant,)* Civil Action No. 3:16-cv-07014-VC (US District Court for the Northern District of California, San Francisco Division).

184. Deposition Testimony (December 2017) on behalf of Plaintiff in the matter of *Wildearth Guardians (Plaintiff) v Colorado Springs Utility Board (Defendant)* Civil Action No. 1:15-cv-00357-CMA-CBS (US District Court for the District of Colorado).

185. Deposition Testimony (January 2018) in the matter of National Parks Conservation Association (NPCA) v. State of Washington Department of Ecology and British Petroleum (BP) before the Washington Pollution Control Hearing Board, Case No. 17-055.

186. Trial Testimony (January 2018) on behalf of Defendant in the matter of *Oakland Bulk and Oversized Terminal (Plaintiff) v City of Oakland (Defendant,)* Civil Action No. 3:16-cv-07014-VC (US District Court for the Northern District of California, San Francisco Division).

187. Trial Testimony (April 2018) on behalf of the National Parks Conservation Association (NPCA) in the matter of NPCA v State of Washington, Department of Ecology and BP West Coast Products, LLC, PCHB No. 17-055 (Pollution Control Hearings Board for the State of Washington.

188. Deposition (June 2018) (harm Phase) on behalf of Plaintiffs in the matter of *Natural Resources Defense Council, Inc., Sierra Club, Inc., and Respiratory*

Health Association v. Illinois Power Resources LLC, and Illinois Power Resources Generating LLC (Defendants), Civil Action No. 1:13-cv-01181 (US District Court for the Central District of Illinois, Peoria Division).

189. Trial Testimony (July 2018) on behalf of Petitioners in the matter of *Coosa River Basin Initiative and Sierra Club (Petitioners) v State of Georgia Environmental Protection Division, Georgia Department of Natural Resources (Respondent) and Georgia Power Company (Intervenor/Respondent)*, Docket Nos: 1825406-BNR-WW-57-Howells and 1826761-BNR-WW-57-Howells, Office of State Administrative Hearings, State of Georgia.

190. Deposition (January 2019) and Trial Testimony (January 2019) on behalf of Sierra Club and Texas Campaign for the Environment (Appellants) in the contested case hearing before the Texas State Office of Administrative Hearings in Docket Nos. 582-18-4846, 582-18-4847 (Application of GCGV Asset Holding, LLC for Air Quality Permit Nos. 146425/PSDTX1518 and 146459/PSDTX1520 in San Patricio County, Texas).

191. Deposition (February 2019) and Trial Testimony (March 2019) on behalf of Sierra Club in the State of Florida, Division of Administrative Hearings, Case No. 18-2124EPP, Tampa Electric Company Big Bend Unit 1 Modernization Project Power Plant Siting Application No. PA79-12-A2.

192. Deposition (June 2019) relating to the appeal of air permits issued to PTTGCA on behalf of Appellants in the matter of *Sierra Club (Appellants) v. Craig Butler, Director, et. al., Ohio EPA (Appellees)* before the State of Ohio Environmental Review Appeals Commission (ERAC), Case Nos. ERAC-19-6988 through -6991.

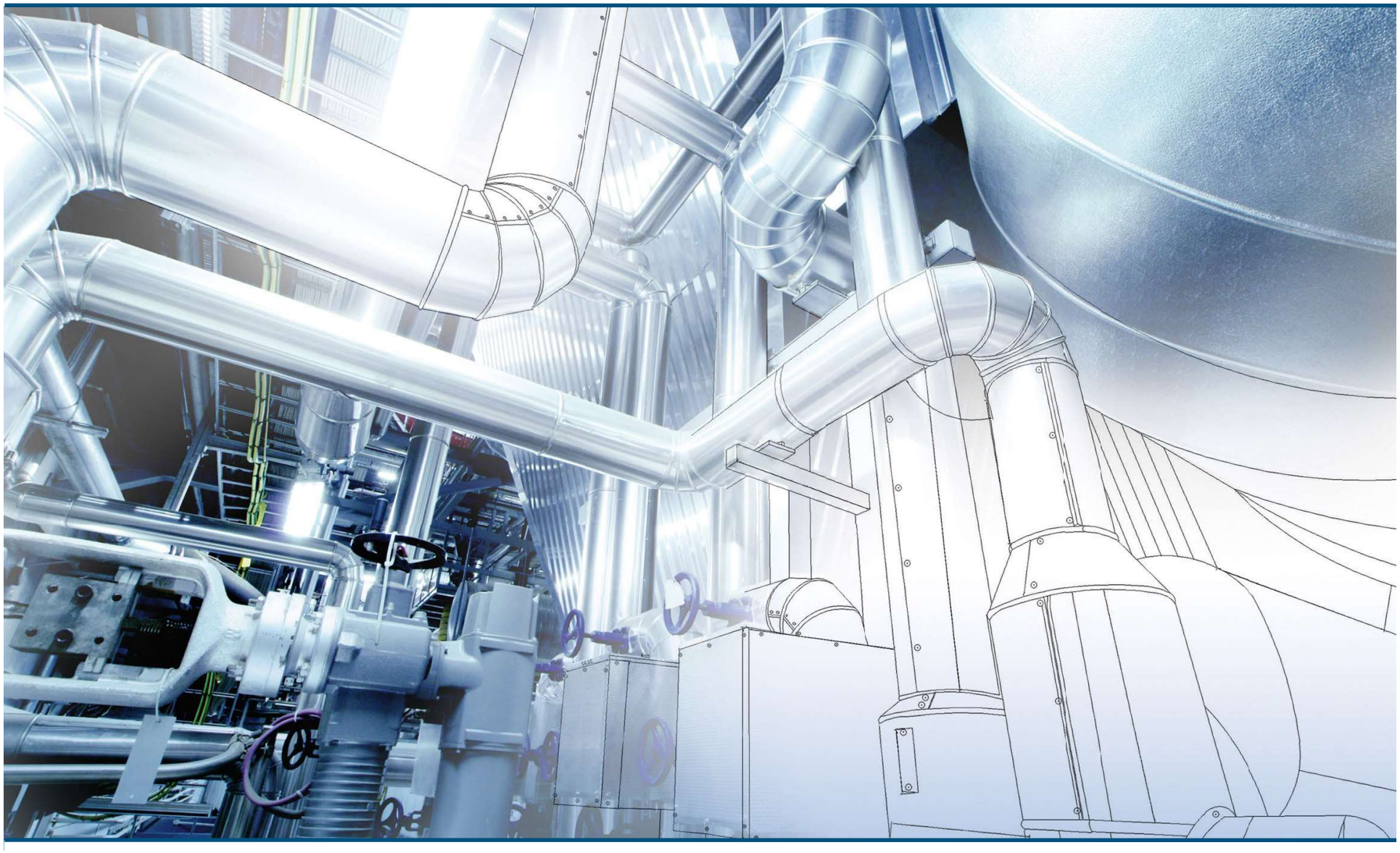
193. Deposition (September 2019) on behalf of Appellants relating to the NPDES permit for the Cheswick power plant in the matter of *Three Rivers Waterkeeper and Sierra Club (Appellees) v. State of Pennsylvania Department of Environmental Protection (Appellee) and NRG Power Midwest (Permittee)*, before the Commonwealth of Pennsylvania Environmental Hearing Board, EHB Docket No. 2018-088-R.

194. Deposition (December 2019) on behalf of the Plaintiffs in the matter of David Kovac, individually and on behalf of wrongful death class of Irene Kovac v. Bp Corporation North America Inc., Circuit Court of Jackson County, Missouri (Independence), Case No. 1816-CV12417.

195. Deposition (February 2020) on behalf of Earthjustice in the matter of *Objection to the Issuance of PSD/NSR and Title V permits for Riverview Energy Corporation*, Dale, Indiana, before the Indiana Office of Environmental Adjudication, Cause No. 19-A-J-5073.

R 006651

Seattle & Iron shredder dedusting system – pressure at bonnet and airflow references



1.) Pressure and airflow measurement at the shredder dedusting system in Götzis, Germany

For verification of pressure increase and airflow at a bonnet of a shredder dedusting system on site measuremet were carried out by company R&R-BETH.

Measurement date: 17th of February 2020
Carried out by: R&R-BETH technician
Location: Car shredding facility, Götzis, Germany

Shredder manufacturer: METSO
Shredder type: ZZ 190X260
Shredder power: 2000 HP
Maximum material input: 75 t/h

Measurement points:

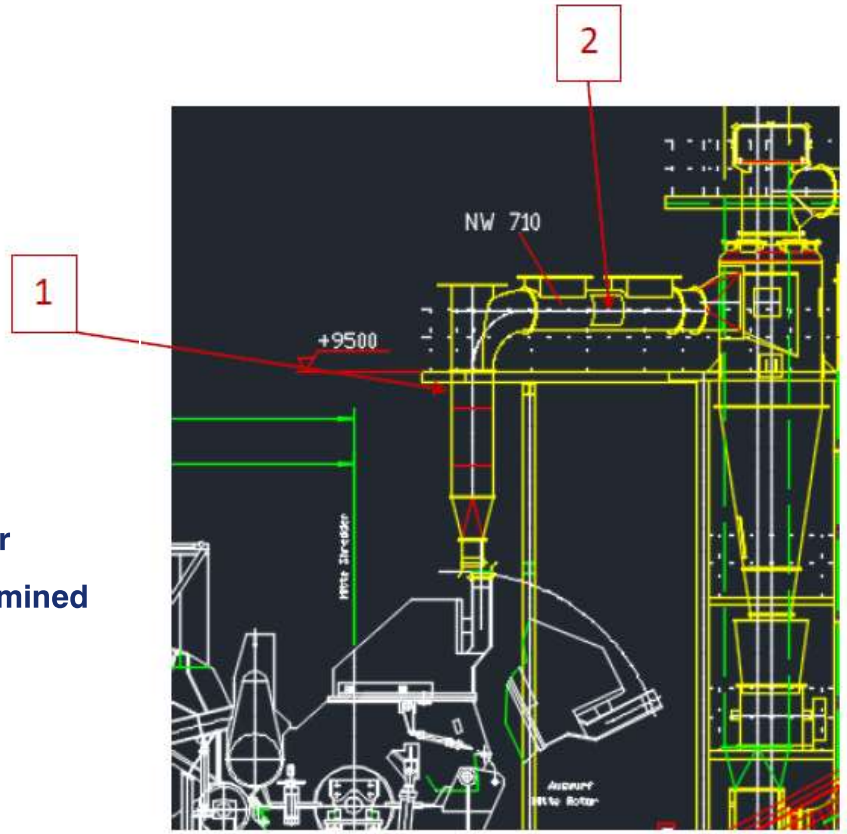
Airflow and pressure of the raw gas was measured at 2 separate points next downstream of the bonnet.

Measurement point 1:

- Pressure and airflow measurement was carried 5 times
- Values were determined by an average
- **Airflow: 36212 m^3/h**
- **Pressure: 674 Pa**

Measurement point 2

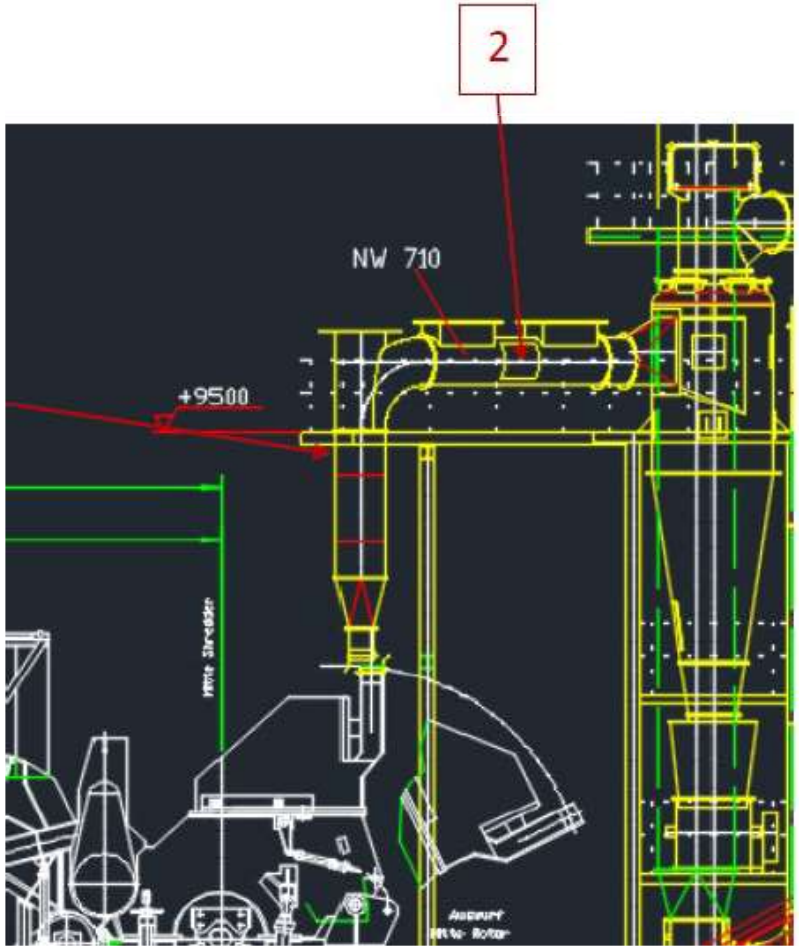
- Pressure and airflow measurement was carried 5 times
- **Because of high turbulences in this area no values for airflow and pressure could been measured and determined**



Discussion of the measurement results

Measurement point 1:

- **Airflow: 36212 m³/h**
- **Pressure: 674 Pa**



The measured values for airflow and pressure are in the expected range. Upstream of measurement point 2 we have a deviation of 90° with explosion pressure relief. Additionally we have a transition from the piping to the bonnet of the shredder. These 2 duct components have at least a pressure drop of 150 Pa according experience and calculations. The pressure drop of the straight piping between measurement point 2 and the bonnet is insignificant because of the short length of the piping.

Conclusion:

Based of the measured values at this existing and properly running shredder installation the approach from R&R-BETH working with a minimum pressure at the bonnet of 500 pa is correct.

Air flow references

1.) Shredding and dedusting system “Loaker”

- Location: Homburg, Germany
- Shredder size: 3000 HP
- Material input: 95 t/h
- **Airflow: 50.000 m3/h**

2.) Shredding and dedusting system “Keyser”

- Location: Courcelles, Belgium
- Dedusting and VOC system currently under construction by R&R-BETH, start up scheduled by end of July 2020
- Shredder type: METSO ZZ 225x260
- Shredder size: 3000 HP
- Material input: 95 t/h
- **Airflow: 50.000 m3/h**

R 006656

Lindemann™ ZZ Series shredders

State-of-the-art metal shredding technology

Lindemann™ ZZ metal shredders offer cost-effective processing of a wide range of metal scrap. Often used in scrap yards and metal recycling applications, the ZZ Series shredders are known for high throughput capacities and low energy requirements.

Heavy duty

Designed to handle the rigors of today's challenging scrap.

Shredder Drive Assistant

Supports the feeding process and optimizes the utilization of the shredder capacity.

Ferrous metals

Ferrous metals downstreams feature the industry's most reliable magnetic and air separation systems.

Non-ferrous metals

Non-ferrous systems in a range of designs from simple to maximum metals recovery capability.

Robust Lindemann™ ZZ metal shredders

Lindemann™ ZZ shredders reduce metal waste to clean, dense and small pieces of shredded scrap. They can process both ferrous and non-ferrous materials such as white goods, household appliances, sorted light scrap, pre-cut end-of-life vehicles (EVLs), and entire ELVs.

Reliable Lindemann™ ZZ equipment can be used in almost all metal shredding applications from classic car shredding to aluminum scrap processing.

All Lindemann™ ZZ shredders utilize the latest metal redycling technology. They are designed to gain the highest results in cleanliness and purity.

Equipped with an in-house developed dedusting systems, Lindemann™ ZZ shredders meet the latest environmental regulations.

Lindemann™ ZZ shredders' technical specifications

MODEL	ROTOR SWING	INTERNAL HOUSING WIDTH	FEED CHUTE WIDTH	MOTOR	INPUT*	OUTPUT*
Lindemann™	1 750 mm	1 600 mm (63")	1 500 mm	499 kW (680 hp) /	25 tonnes / 35 tonnes	16 tonnes / 24 tonnes

MODEL	ROTOR SWING	INTERNAL HOUSING WIDTH	FEED CHUTE WIDTH	MOTOR	INPUT*	OUTPUT*
Lindemann™ ZZ 190x260	1 900 mm (75")	2 600 mm (102")	2 500 mm (98")	1 050 kW (1 400 hp) / 1 500 kW (2 000 hp)	75 tonnes / 90 tonnes (83 US ton / 99 US ton)	50 tonnes / 60 tonnes (55 US ton / 66 US ton)
Lindemann™ ZZ 225x260	2 250 mm (89")	2 600 mm (102")	2 500 mm (98")	2 200 kW (3 000 hp) / 3 000 kW (4 000 hp)	130 tonnes / 160 tonnes (143 US ton / 176 US ton)	90 tonnes / 110 ton (99 US ton / 121 US
Lindemann™ ZZ 250x260	2 500 mm (98")	2 600 mm (102")	2 500 mm (98")	3 700 kW (5 000 hp) / 4 400 kW (6 000 hp)	220 tonnes / 260 tonnes (243 US ton / 287 US ton)	150 tonnes / 180 to (165 US ton / 198 US ton)
Lindemann™ ZZ 300x300	3 000 mm (118")	3 000 mm (118")	2 900 mm (114")	5 100 kW (7 000 hp) / 7 500 kW (10 000 hp)	340 tonnes / 460 tonnes (375 US ton / 507 US ton)	240 tonnes / 320 tonnes (265 US ton / 353 US ton)

*Up to

LINDEMANN™ ZZ SHREDDER PARTS AND SERVICES

Lindemann™ ZZ shredder spare parts and wear parts

As an OEM supplier, we provide components that fit perfectly in your Lindemann™ ZZ shredders.

Spare parts

Having a large inventory is useless if you do not have access to the right parts when you needed them most. Large inventories are costly and parts sitting unused, ageing, can be a nightmare if not handled correctly. Therefore, Metso stocks the genuine fit-for-purpose parts for your needs, reducing your inventory costs, offering short lead times.

Wear parts

Metso uses several manganese grades with different alloying to suit each casting application and wear exposure. Having specific chemical formulas for our products allows us to maximize the life of our castings, but at competitive pricing.

Services for Lindemann™ ZZ shredders

Metso has served metal recycling customers for over 100 years, being a true partner in overcoming challenges and seizing new opportunities. Our specialist services are designed to ensure that you get the most out of your Lindemann™ ZZ shredder in any metal recycling operation.

Field services

Over the years, wear and ageing causes internal leakages resulting in possible machine failures. With Metso's inspections and maintenance planning services you can avoid unpleasant surprises and keep the machines in top shape. In addition to inspections, we also offer repair, refurbishment, and troubleshooting services.

Performance services

Project and engineering services

We assist with professional support right from the beginning of the plant life-cycle, during improvement investments, and in modernization or relocation projects.

Training services

A knowledgeable and well-trained workforce is vital to ensure optimum equipment operational skills. Training brings enhanced employee motivation

Metso is your partner in enhancing equipment performance through the best practices. The performance services offering covers for example equipment upgrades and remote controlling, as well as useful tools such as autopilot, dust suppression, and condition analysis and reporting systems.

and higher productivity through better utilization of all Metso metal recycling equipment features. This supports proper installation, start-up, operation, and maintenance of equipment, as well as improved knowledge of product-related safety and environmental issues.

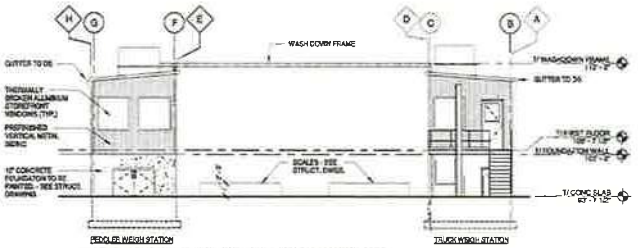
Shredder parts

Metal recycling services

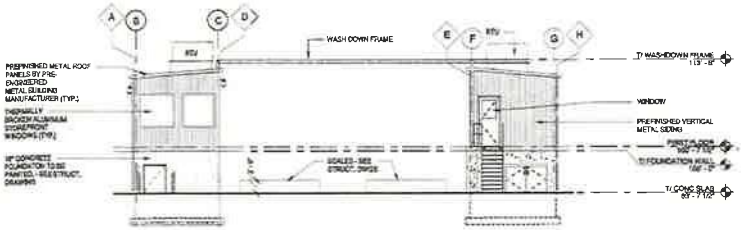
Downloads

TYPE	NAME	LANGUAGE	SIZE	
PDF	Lindemann™ ZZ Series shredders	English	791 kB	DOWNLOAD

Contact Metso experts



6 PEDDLER AND TRUCK WEIGH STATION - WEST ELEVATION
1/8" = 1'-0"



3 PEDDLER AND TRUCK WEIGH STATION - EAST ELEVATION
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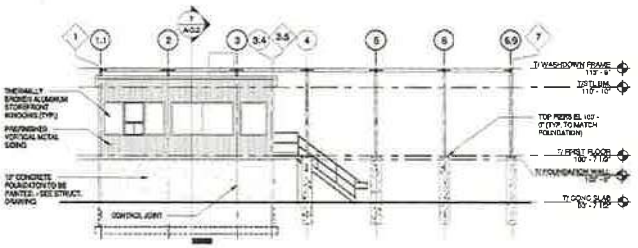
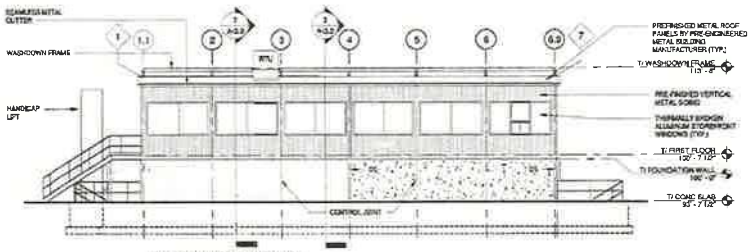
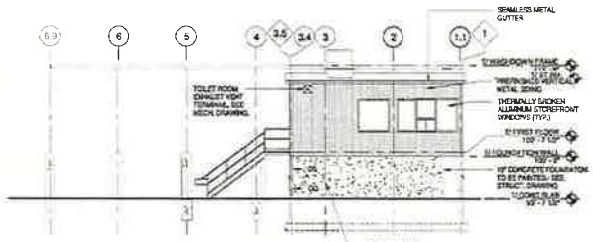


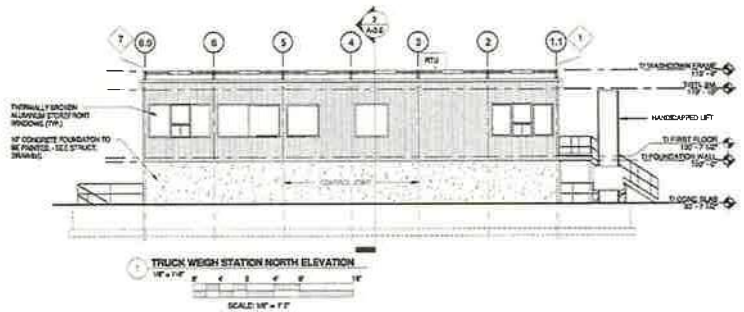
5 PEDDLER WEIGH STATION SOUTH ELEVATION
1/8" = 1'-0"



2 TRUCK WEIGH STATION SOUTH ELEVATION
1/8" = 1'-0"



4 PEDDLER WEIGH STATION NORTH ELEVATION
1/8" = 1'-0"



1 TRUCK WEIGH STATION NORTH ELEVATION
1/8" = 1'-0"

SCALE: 1/8" = 1'-0"

PROGRESS SET - NOT FOR CONSTRUCTION

KNIGHT
Engineers & Architects
Knight E/A, Inc.
221 N. LaSalle Street
Suite 300
Chicago, IL 60601
Phone: (312) 577-3300
knightea.com

PROJECT:
GENERAL III, LLC
11800 S. BURLEY AVE
CHICAGO, IL. 60617

CLIENT:

CLIENT ADDRESS
CLIENT CONTACT #:

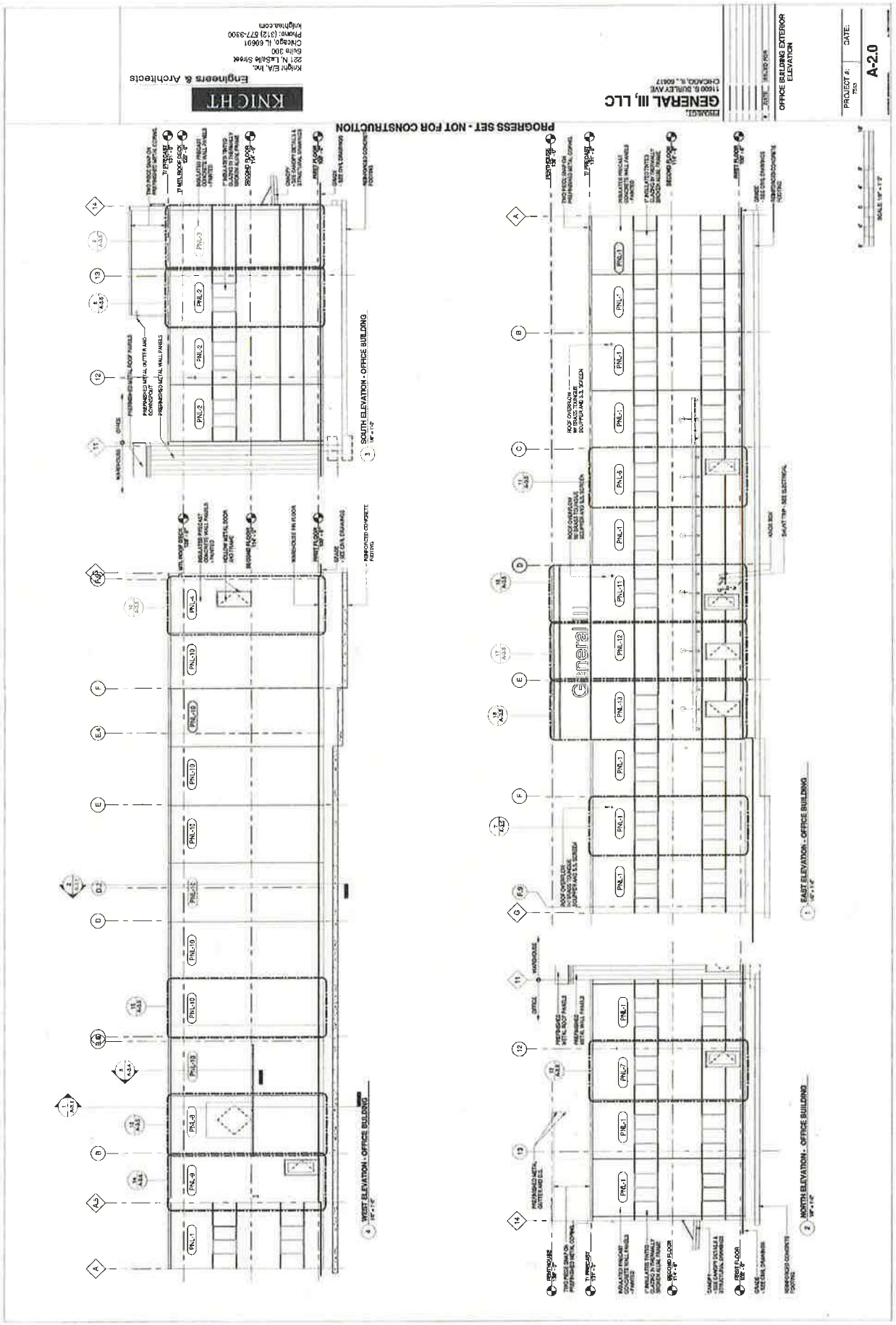
#	DATE	ISSUED FOR

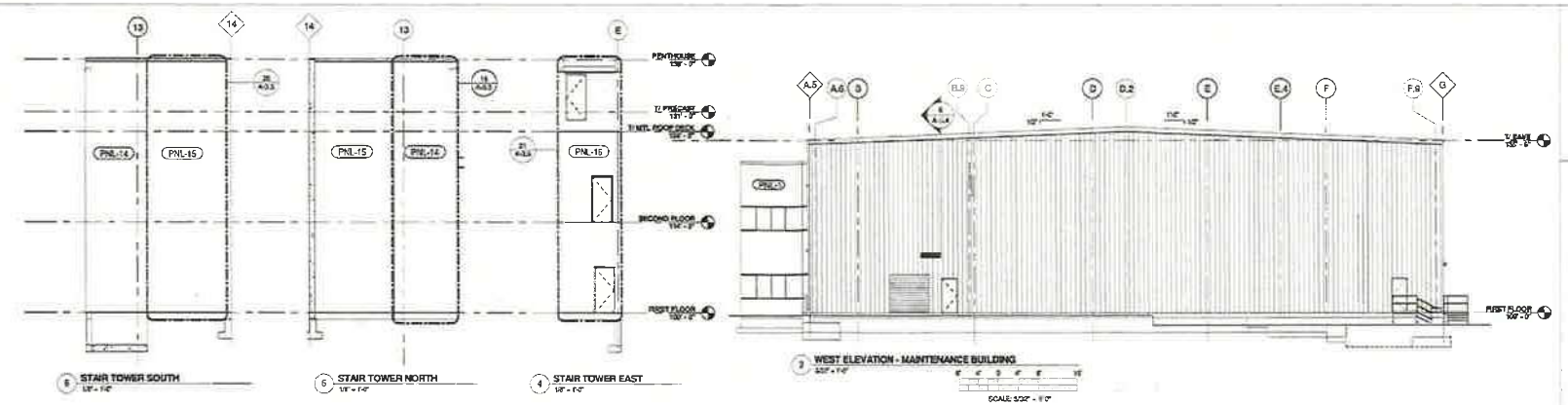
EXTERIOR ELEVATIONS

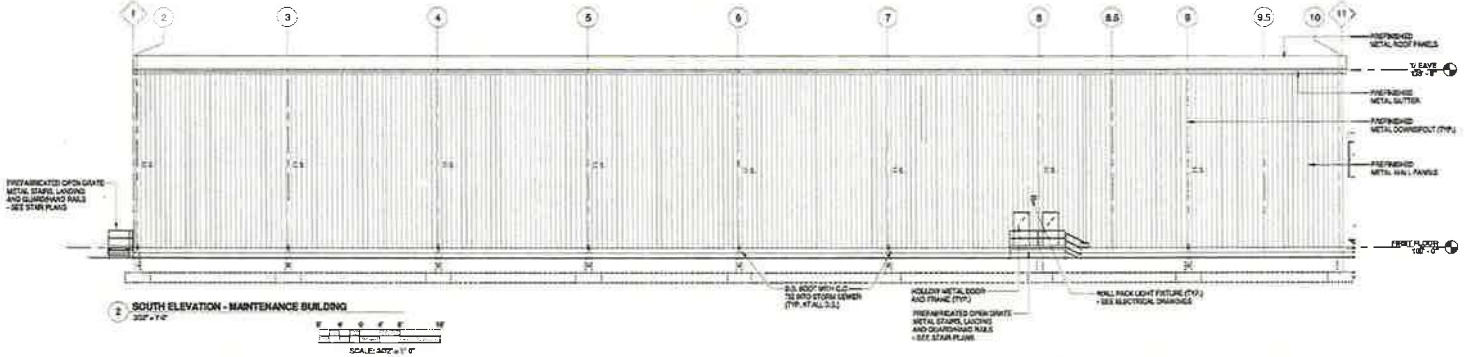
PROJECT #:	DATE:
Project Number	

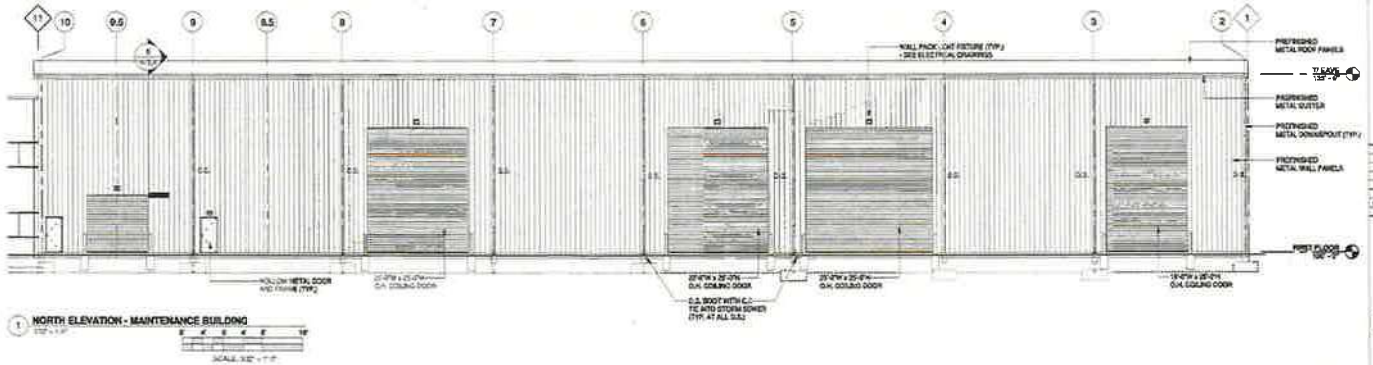
A-2.0

R 006959


PROGRESS SET - NOT FOR CONSTRUCTION
KNIGHT
Engineers & Architects
Knight E/A, Inc.
321 N. LaSalle Street
Suite 300
Chicago, IL 60601
Phone: (312) 577-3300
knightea.com
GENERAL III, LLC
11600 S. DOTY AVE.
CHICAGO, IL., 60617
OFFICE BUILDING EXTERIOR ELEVATION
PROJECT #:
7551
DATE:
A-2.0
SOUTH ELEVATION - OFFICE BUILDING
WEST ELEVATION - OFFICE BUILDING
EAST ELEVATION - OFFICE BUILDING
NORTH ELEVATION - OFFICE BUILDING
General III







PROGRESS SET - NOT FOR CONSTRUCTION

KNIGHT
Engineers & Architects
Knight E/A, Inc.
221 N. LaSalle Street
Suite 300
Chicago, IL 60601
Phone: (312) 577-3300
knightea.com

PROJECT:
GENERAL III, LLC
11600 S. BURLEY AVE
CHICAGO, IL, 60617

#	DATE	ISSUED FOR

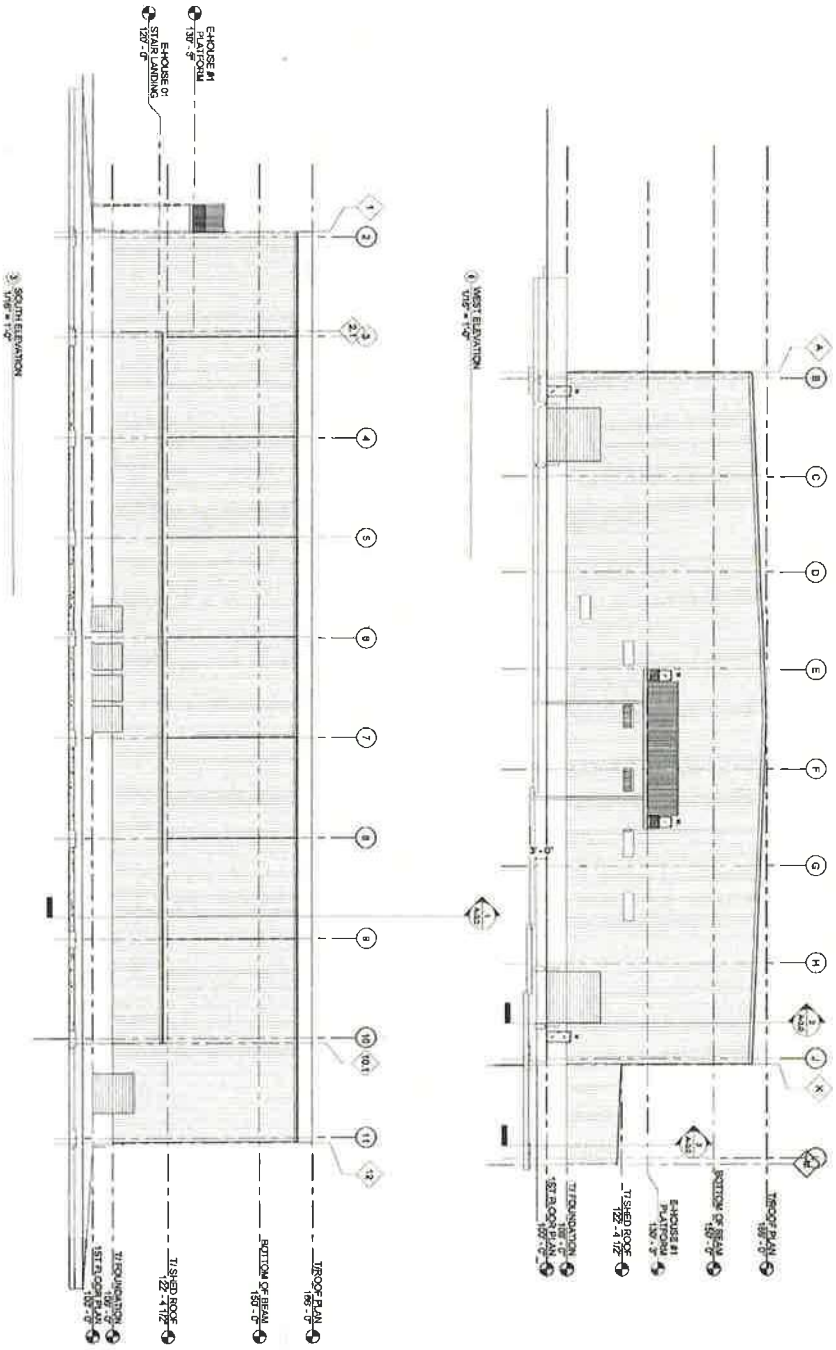
MAINTENANCE BUILDING
EXTERIOR ELEVATION

PROJECT #: 7362 | DATE:

A-2.1

R 006661

PROGRESS SET - NOT FOR CONSTRUCTION
PROJECT
GENERAL III, LLC
11600 S. DUBLEY AVE
CHICAGO, IL. 60617
ISSUE
EXTERIOR ELEVATION
PROJECT #
NIS
DATE
A-2.0
Engineers & Architects
Knight E/A, Inc.
221 N. LaSalle Street
Suite 300
Chicago, IL 60601
Phone: (312) 577-3300
knightea.com
T/ROOF PLAN
189' - 0"
BOTTOM OF BEAM
150' - 0"
T/ SHED ROOF
122' - 4 1/2"
T/ FOUNDATION
100' - 0"
1ST FLOOR PLAN
100' - 0"
E-HOUSE #1
PLATFORM
132' - 0"
E-HOUSE 01
STAIR LANDING
125' - 0"
1 WEST ELEVATION
1/16" = 1'-0"
2 SOUTH ELEVATION
1/16" = 1'-0"



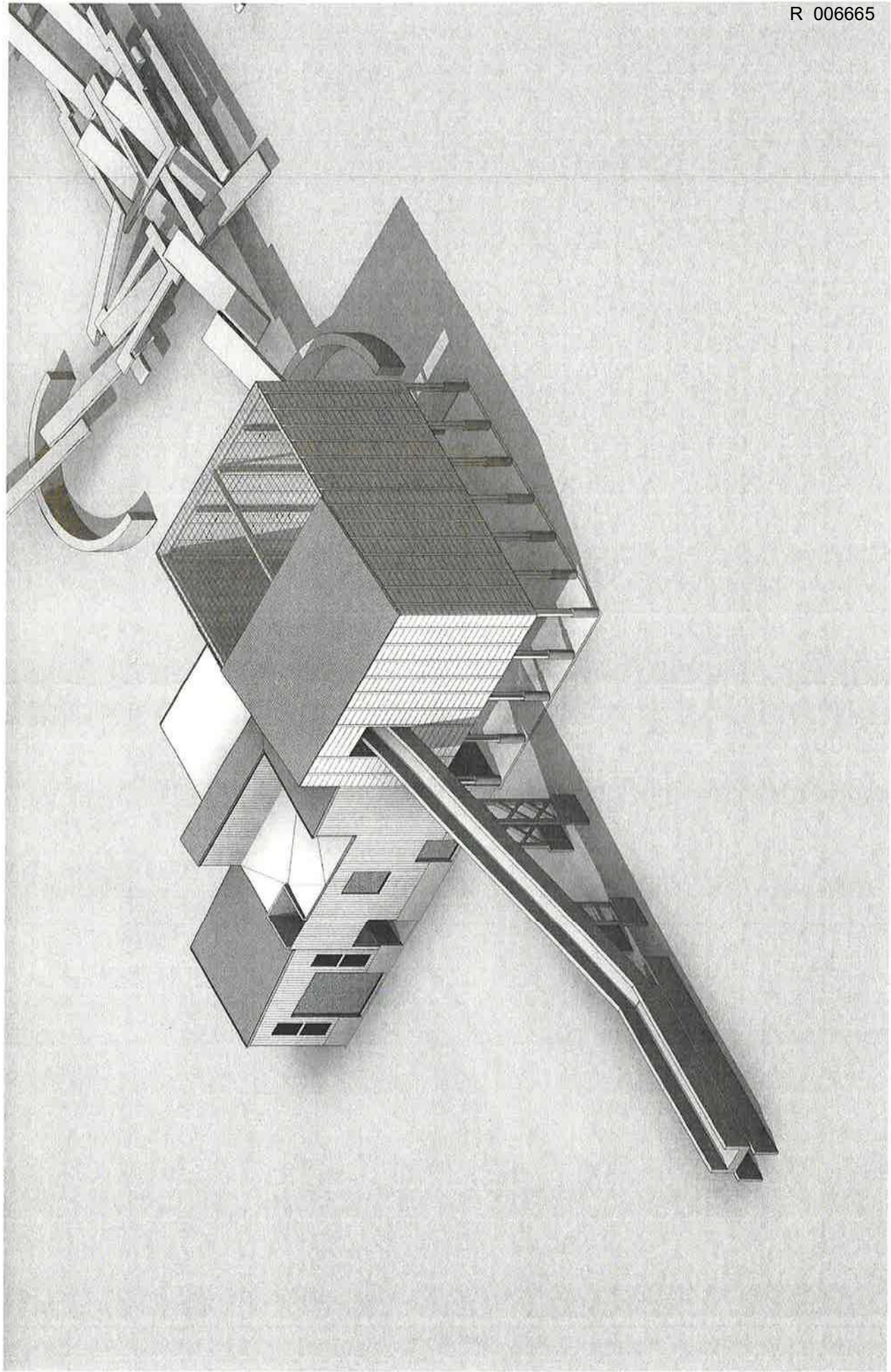
PROGRESS SET - NOT FOR CONSTRUCTION

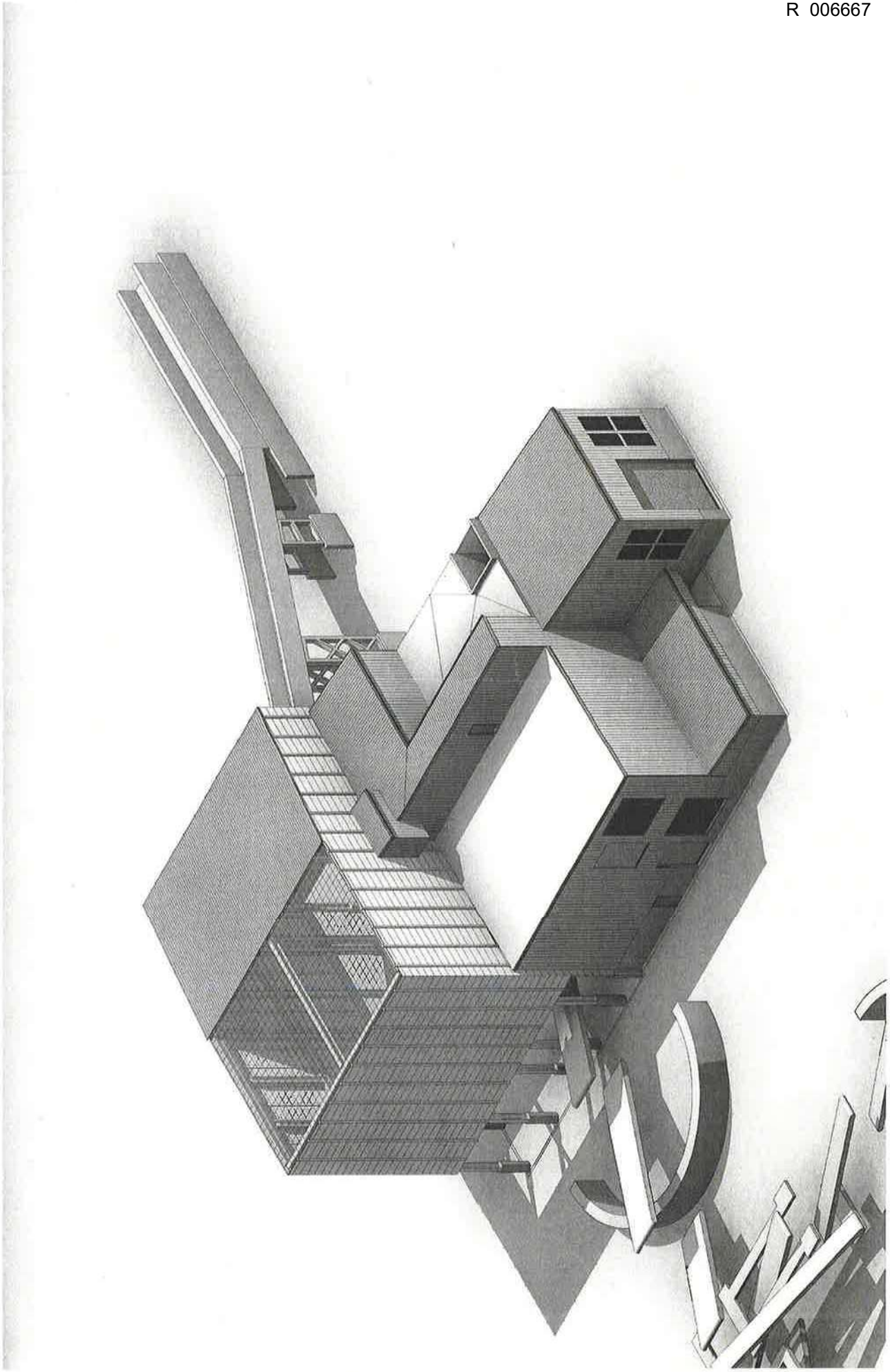
PROJECT:
GENERAL III, LLC
11500 S. BURLEY AVE
CHICAGO, IL, 60617

[redacted]
Engineers & Architects
Knight E/A, Inc.
221 N. LaSalle Street
Suite 300
Chicago, IL 60601
Phone: (312) 577-3300
knightea.com

PROJECT #: 790
DATE:
A-2.0
EXTERIOR ELEVATION

R 006663





State of Ohio Environmental Protection Agency

STREET ADDRESS:
Lazarus Government Center
50 W. Town St., Suite 700
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184
www.epa.state.oh.us

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

7/31/2008

Certified Mail

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR
No	CEMS
No	MACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED

JAMES SHOLLENBERGER
OMNISOURCE CORP
2453 HILL AVE
TOLEDO, OH 43607

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 0448011189
Permit Number: P0103630
Permit Type: Initial installation
County: Lucas

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install and Operate for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit comments on the permit. A public notice will appear in the Ohio EPA Weekly Review and the local newspaper, Toledo Blade. A copy of the public notice and the draft permit are enclosed. This permit has been posted to the Division of Air Pollution Control Web page http://www.epa.state.oh.us/dapc in Microsoft Word and Adobe Acrobat format. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
122 South Front Street
Columbus, Ohio 43215

and

Toledo Department of Environmental Services
348 South Erie Street
Toledo, OH 43604

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install and operate will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install and Operate is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Toledo Department of Environmental Services at (419)936-3015.

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA Region 5 *Via E-Mail Notification*
TDES; Michigan; Indiana; Canada

Lucas County

PUBLIC NOTICE
Issuance of Draft Air Pollution Permit-To-Install and Operate
OMNISOURCE CORP

Issue Date: 7/31/2008
Permit Number: P0103630
Permit Type: Initial installation
Permit Description: F003 - magnetic separation and conveying of nonferrous material to open storage piles, conveying of ferrous material to open storage piles and ferrous material handling F004 - 12 torching stations, used to disassemble miscellaneous metal parts before they are fed to the shredder F005 - metal shredder, comprised of an enclosed hammermill driven by an electric motor and the associated material separation equipment (z-box with cyclone) K001 - misc metal parts spray booth <10 gpd
Facility ID: 0448011189
Facility Location: OMNISOURCE CORP
5000 N. DETROIT AVE,
TOLEDO, OH 43612

Facility Description: Recyclable Material Merchant Wholesalers

Chris Korleski, Director of the Ohio Environmental Protection Agency, 50 West Town Street, Columbus Ohio has issued a draft action of an air pollution control, federally enforceable permit-to-install and operate (PTIO) for the facility at the location identified above on the date indicated. Comments concerning this draft action, or a request for a public meeting, must be sent in writing no later than thirty (30) days from the date this notice is published. All comments, questions, requests for permit applications or other pertinent documentation, and correspondence concerning this action must be directed to Mary Lehman-Schmidt at Toledo Department of Environmental Services, 348 South Erie Street or (419)936-3015. The permit can be downloaded from the Web page: www.epa.state.oh.us/dapc

OhioEPA

Permit Strategy Write-Up

1. Check all that apply:

   _x_ Synthetic Minor Determination

   ___ Netting Determination

2. Source Description:

OmniSource Corporation operates a metal recycling center at 5130 North Detroit Ave. in Toledo, Ohio. A permit to install application was submitted on December 10, 2007 for a new shredder with modifications to the existing permits. The plant is comprised of various material handling operations, a hammermill, storage piles, paved and unpaved roadways, torching operations, surface coating operations.

3. Facility Emissions and Attainment Status:

Omni Source currently operates as a synthetic minor source for all pollutants with restrictions on monthly fuel usage maintaining minor souce emission status for CO for two natural gas fired engines used to power an existing shredder. After replacement of the existing shredder by a electric powered shredder, the CO will no longer be a concern, however the new unrestricted facility-wide emissions of VOC would exceed 100 tons per year. With a restriction of 720,000 tons of scrap processed per year, total facility emissions will be minor for all criteria pollutants. Lucas County has the following attainment status:

Pollutants	Air Quality Description
Particulate Matter	Unclassified
PM10	Attainment
Sulfur Dioxide	Attainment
Organic Compounds	Attainment
Nitrogen Oxides	Attainment
Carbon Monoxide	Attainment
Lead	Unclassified

4. Source Emissions:

This permit is one of three permits related to this project and is for the installation of emissions units F003 - material handling (magnetic separation and conveying of nonferrous material to open storage piles, conveying of ferrous material to open storage piles and ferrous material handling), F004 - torching stations, F005 - metal shredder and K001 – miscellaneous metal spray booth. Total federally enforceable potential to emit from these emissions units will be 30.46 tons of particulate emissions (PE) per year, 14.25 tons of particulate matter emissions less than or equal to 10 microns in diameter (PM10) and 92.58 tons of volatile organic compounds (VOC).

Project Emission Summary

tpy	Allowable Emissions		
	PE	PM10	VOC
F001	1.96	0.54	0.00
F002	3.91	1.30	0.00
F003	24.60	8.95	0.00
F004	4.99	4.99	0.00
F005	0.86	0.30	88.92
K001	0.01	0.01	3.66
Permit total	36.33	16.09	92.58

Fugitive emissions from this facility are not included in the calculations for major source applicability.

PSD/Title V Emissions (stack emissions only)

Tpy	Allowable Emissions		
	PE	PM10	VOC
F003 (Z-box)	4.93	1.73	0.00
F005 (shredder)	0.86	0.30	88.92
K001	0.01	0.01	3.66
Total	5.80	2.04	92.58

5. Conclusion:

OmniSouce is not an existing major source for PSD or Title V purposes. With a throughput restriction, and enforceable control requirements, this project increases allowable emissions of PE by 30.92 tons per year, PM10 by 16.09 tons per year and VOC by 92.58 tons per year. These increases do not trigger the requirements for PSD review or Title V applicability.

6. Please provide additional notes or comments as necessary:

Description

OmniSource Corporation operates a metal recycling center at 5130 North Detroit Ave. in Toledo, Ohio. This facility was permitted under PTI 04-957 issued May 3, 1995 with sources identified as F001 roadways and parking lots, F002 storage piles and P002 & P003 natural gas fired engines #1 and #2. A permit to install application was submitted on December 10, 2007 for a new shredder with potential modifications to the existing permits.

Omni Source currently operates as a synthetic minor for CO with restrictions on monthly fuel usage for two natural gas fired engines used to power an existing shredder. The plant is comprised of various material handling operations, a hammermill, storage piles, paved and unpaved roadways, torching operations, surface coating operations. Controls are watering, chemical suppression and enclosure. Omni Source is updating the

salvage yard to operate as a more efficient facility. The existing hammermill along with the material handling equipment will be replaced. The two internal combustion engines are being removed from the facility as the new shredder is to be electric motor powered. Both internal combustion engines will be decommissioned and removed from the yard. The facility will no longer be subject to synthetic minor federally enforceable limits for CO. Because the modifications to this facility include altering traffic patterns and constructing new roadways, this permit may involve a modification to the emission units of PTI 04-0957 and 04-1061 (which itself was a modification to PTI 04-0957). The synthetic minor limitation on the engines used to power the shredder is considered to be adequate to have limited all particulate emissions to less than 250 tpy and therefore this facility will not be considered to be an existing major source for PSD purposes.

Engineering guide 25 lists the following recommended break down for the sources located at a metal salvage operation:

FXXX - All roadways and parking lots (F001).
FXXX - All torching stations (F004).
FXXX - One permit per shredder (F005).
FXXX - Magnetic separation and conveying of nonferrous material onto open storage piles, conveying of ferrous material onto open storage piles and ferrous material
handling and loadout (F003)
FXXX - All ferrous scrap stockpiles and nonferrous material stockpiles (if stored on-site) (F002)

Because metal recycling is not a listed source of pollutants in one of the 28 PSD source categories, fugitive emissions will not be counted towards Title V applicability.

BAT analysis

Existing emissions units/allowable emissions

PTI 04-0957 addressed the following:

P002	1750 hp engine	to be withdrawn
P003	1750 hp engine	to be withdrawn
F001	roadways	0.014 lb PM/hr (paved)
	and parking lots	no VE except 1 minute/hr (paved)
		1.21 lb PM/hr (unpaved)
		no VE except 3 minute/hr (unpaved)
		5.34 tpy PM
F002	storage piles	0.0171lb PM/hr
		no VE except 1 minute/hr
		0.07 tpy PM

PTI 04-1061 addressed P002 and P003 only and will be withdrawn

Proposed emissions units/allowable emissions

F003 - MATERIAL HANDLING - Magnetic separation and conveying of nonferrous material to open storage piles, conveying of ferrous material to open storage piles and ferrous material handling. Note that the load in and load out of the storage piles has been assigned to the storage pile permit in accordance with the RACM document guidance.

The company identifies the poker picker, magnet, vibrator, combining chute, Zbox and manual sorting as being "enclosed" with a 100% effective control. However with the exception of the Zbox which is equipped with a cyclone, they identify no control equipment other than the building proper, and a causal examination of the

processes suggests little potential for the operation of an "air tight" enclosure. Probable control for these processes would be in the 50 to 90% range for the material which becomes airborne, dependent on the degree of enclosure and the applicable permit BAT requirement (typically, 90% control might require a permit restriction of 0% opacity for building egresses). Since the actual airborne emission are inherently low due to the very high moisture levels of the materials being handled the tpy difference is expected to be insignificant, however without additional information, we would be hesitant to allow greater than 50% control for the proposed enclosure.

OmniSource submitted emission calculations based on emission factors taken from AP-42, Chapter 11.19.2. Table 11.19.2-2 EMISSION FACTORS FOR CRUSHED STONE PROCESSING OPERATIONS dated 8/04 for conveyor belt transfer points: 0.0030#PE/t uncontrolled and 0.00014#PE/t controlled by wet suppression, 0.0011#PM10/t uncontrolled and 0.000046#/t controlled by wet suppression. These emissions factors are assumed to overestimate the actual emissions of freshly shredded materials. OmniSource estimated these material handling PTE emissions at 44.19 tpy PE and 12.50 tpy PM10.

Adjusting our calculations to normalize for 720,000 tons maximum of throughput we find:

Potential to emit, PM&PM10

transfer point, wet; 1 emission point
224 tons/hr (720,000 tons/yr÷224 tons/hr)(0.00014 lb/ton)(1 ton/2000 lb)(1) = 0.05 tpy PM
224 tons/hr (720,000 tons/yr÷224 tons/hr)(.000046 lb/ton)(ton/2000 lb)(1) = 0.02 tpy PM10

transfer point, dry; 3 emission points
0.56 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(3) = 0.01 tpy PM
0.56 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(3) = 0.01 tpy PM10

transfer point, dry, 5 emission points
1.12 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(5) = 0.03 tpy PM
1.12 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000)(5) = 0.01 tpy PM10

transfer point, dry; 2 emission points
1.68 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(2) = 0.02 tpy PM
1.68 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(2) = 0.01 tpy PM10

transfer point, dry; 8 emission points
2.24 ton/hr (720,000 tons/yr÷224 tons/hr)(0.003 lb/ton)(1 ton/2000 lb)(8) = 0.09 tpy PM
2.24 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(8) = 0.03 tpy PM10

transfer point, dry; 2 emission points
2.52 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(2) = 0.02 tpy PM
2.52 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(2) = 0.01 tpy PM10

transfer point, dry; 4 emission points
2.8 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(4) = 0.05 tpy PM
2.8 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(4) = 0.02 tpy PM10

transfer point, dry; 10 emission points
17.92 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(10) = 0.86 tpy PM
17.92 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(10) = 0.32 tpy PM10

transfer point, dry; 5 emission points
22.4 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(5) = 0.54 tpy PM
22.4 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(5) = 0.20 tpy PM10

transfer point, dry; 4 emission points
39.76 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(4) = 0.77 tpy PM
39.76 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(4) = 0.28 tpy PM10

transfer point, dry; 1 emission point
42.56 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(1) = 0.21 tpy PM
42.56 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(1) = 0.08 tpy PM10

transfer point, dry; 5 emission points
44.8 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(5) = 1.08 tpy PM
44.8 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(5) = 0.40 tpy PM10

transfer point, dry; 2 emission points
47.88 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lbs)(2) = 0.46 tpy PM
47.88 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(2) = 0.17 tpy PM10

transfer point, dry; 6 emission points
49 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(6) = 1.42 tpy PM
49 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(6) = 0.52 tpy PM10

transfer point, dry; 5 emission points
51.24 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(5) = 1.24 tpy PM
51.24 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(5) = 0.45 tpy PM10

transfer point, dry; 3 emission points
53.48 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(3) = 0.77 tpy PM
53.48 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(3) = 0.28 tpy PM10

transfer point, dry; 3 emission points
168 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lbs)(3) = 2.43 tpy PM
168 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(3) = 0.89 tpy PM10

transfer point, dry; 1 emission point
173.6 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lbs)(1) = 0.84 tpy PM
173.6 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(1) = 0.31 tpy PM10

transfer point, dry; 1 emission point
201.6 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lb)(1) = 0.97 tpy PM
201.6 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(1) =0.36 tpy PM

transfer point, dry; 2 emission point
224 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0030 lb/ton)(1 ton/2000 lbs)(2) = 2.16 tpy PM
224 ton/hr (720,000 tons/yr÷224 tons/hr)(0.0011 lb/ton)(1 ton/2000 lb)(2) = 0.79 tpy PM10

Total allowable emissions from conveying operations are estimated at 14.02 tpy PE and 5.16 tpy PM10.

With no additional information from the company, emissions from the poker picker, magnet, vibrator, combining chute and manual sorting will be typified as the equivalent of 10 transfer points:

720,000 tons/yr (0.0030 lb/ton)(1 ton/2000 lbs)(10) = 10.80 tpy PM
720,000 tons/yr (0.0011 lb/ton)(1 ton/2000 lb)(10) = 3.96 tpy PM10

Stack emissions from the Z box separator and cyclone (Z-box bleed-off) have been identified as 0.0137 lb/ton for PE and PM10 based on the Institute of Scrap Recycling Industries, Inc. "Title V Applicability Workbook" Appendix D, Table D-11.E dated 1996. Our expectation is that PM10 emissions represent approximately 35% of the PE.

Stack emissions from the Z box separator and cyclone are estimated at:

221.76 tph (0.0137 lb/ton) = 3.04 lb PE/hr
720,000 tpy (0.0137 lb/ton)(1 t/2000 lb) = 4.93 tpy PE
3.04 lb PE/hr (35%) = 1.06 lb/hr PM10
4.93 tpy PE (35%) = 1.73 tpy PM10

Uncontrolled fugitive emissions are estimated at 10% of the stack allowables:

4.93 tpy PE (10%) = 0.49 tpy PE
1.73 tpy PM10 (10%) = 0.17 tpy PM10

Uncontrolled fugitive emissions from the poker picker, magnet, vibrator, combining chute, Z box separator and manual sorting are estimated as;

10.80 tpy PE + 0.49 tpy PE = 11.29 tpy PE
3.96 tpy PM10 + 0.17 tpy PM10 = 4.13 tpy PM10

Emissions controlled with enforceable permit terms by the building enclosure are estimated to be 50% of these values or 5.65 tpy PE and 2.06 tpy PM10. As a worst case BAT for fugitive emissions, operating at 224 tons per hour:

(14.02 tpy + 5.65 tpy PE)((224 tons/hr)÷(720,000 tons/yr))(2000 lb/ton) = 12.24 lb PE/hr
(5.16 tpy + 2.06 tpy PM10)((224 tons/hr)÷(720,000 tons/yr))(2000 lb/ton) = 4.49 lb PM10/hr

Material Handling Emissions

tpy	OmniSource		Uncontrolled Emissions		Allowable Emissions	
	PE	PM10	PE	PM10	PE	PM10
conveying	44.19	12.50	14.02	5.16	14.02	5.16
building emissions	-	-	11.29	4.13	5.65	2.06
stack emissions	13.31	11.88	49.30[1]	17.30[1]	4.93	1.73
F003 total	57.50	24.38	74.61	26.59	24.60	8.95

[1] Allowing for an 90% effective control by utilization of a cyclone

Because this emissions unit existed without a permit prior to 2006, SB265 does not apply.

Applicable requirements are:

OAC rule 3745-17-07 (A)(1) stack - 20% opacity except for a period of time not to exceed 6 minutes during any 60-minute period

OAC rule 3745-17-07 (B)(1) fugitive - 20% opacity except for a period of time not to exceed 3 minutes during any 60-minute period

OAC rule 3745-17-08 (B), (B)(3)	reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust the installation and use of hoods, fans, and other equipment to adequately enclose, contain, capture, vent and control the fugitive dust
OAC rule 3745-31-05(A)(3)	fugitive - 10% opacity except for a period of time not to exceed 3 minutes during any 60-minute period (BAT from cement general permit) stack - 3.04 lb/hr PE, 1.06 lb PM10/hr, 10% opacity except for a period of time not to exceed fugitive 3 minutes during any 60-minute period (BAT from cement general permit)
OAC rule 3745-31-05(D)	24.60 ton PE/yr, 8.95 ton PM10/yr

Note: While no VOC emissions have been identified as being associated with the Z-box stack, it is reasonable to assume that some minor amount of VOC would be entrained with the fluff and evaporate from this source. Preventative control measures for these emissions are included in the terms and conditions of F005 and no additional consideration of VOC was included in this permit.

F004 - Torching stations

The permittee identifies 19 torching stations, used to disassemble miscellaneous metal parts before they are fed to the shredder with annual emissions of 3.15 tpy PE And PM10. At a fugitive particulate emission rate for cutting clean steel of 0.06 lb/hr from ISRI TitleV applicability Workbook, Appendix D, Table D-5 dated 1996, operating 8760 hrs/yr, emissions are estimated at:

19 (0.06 lb/station-hr) = 1.14 lb PE/hr
1.14 lb PE/hr (8760 hr/yr)(1 t/2000 lb) = 4.99 tpy PE

OmniSource identified 7 of the torching operations as occurring indoors, and apparently claimed 100% effective capture and control of the fugitive emissions. The nature of the particulate suggests that all PE may be considered to be PM10. Since the emissions are <10 tpy, the operation will be exempted from BAT requirements by S.B. 265. RACT will be required, 20% as a 3-minute average. Since this emissions unit is not restricted by enforceable controls, PTE for federal purposes is 4.99 tpy as PE and PM10. It is not necessary to apply OAC rule 3745-31-05(D) limitations.

Note: the emissions factor utilized in this calculation assumes that the material being cut is steel. The torching of materials other than clean metals which result in opacities in excess of the allowable limitation will be considered to result in emissions at higher rate than 0.06 lb/station-hr. Restrictions will be added to the permit to clarify this matter. The immediate extinguishment of any open flames is a key requirement for this process.

Applicable requirements are:

OAC rule 3745-17-07 (B)(1) 20% opacity except for a period of time not to exceed 3 minutes during any 60-minute period

OAC rule 3745-17-08 (B), (B)(3) reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust

Because this emissions unit existed without a permit prior to 2006, SB265 does not apply. PTE voluntary emission limitations will be set as 4.99 tpy PE and PM10 under OAC rule 3745-31-05(D).

F005 - Metal shredder.

The metal shredder is comprised of an enclosed hammermill driven by an electric motor. Other than the material inlet and outlets, this equipment is intended to operate fully enclosed. The hammermill is equipped with water sprays directed onto the material at the inlet of the shredder, cutterhead and output chute. This means of inherent control when followed with a cyclone and venturi scrubber is deemed to result in stack emissions no greater than 0.0109 lb PE/ton based on the Institute of Scrap Recycling Industries, Inc. "Title V Applicability Workbook" Appendix D, Table D-10.D.1. dated 1996 which notes that all batteries, gas tanks, and tires were removed and all fluids drained from processed vehicles. The company indicated that prior to processing of the metal materials, all combustible fluids, mercury switches and CFC's are to be removed. OmniSouce states in a June 16, 2008 communication proposing testing of a similar source to establish VOC and HAP emissions factors: "Most shredders operate without air pollution control equipment..." and has not identified any control beyond the injection of water for the process in their Toledo application. In the same communication while describing the Jackson, Michigan OmniSource facility to be tested, they state: "Emissions from the shredder are captured and routed to a cyclone followed by a venturi scrubber..." at that source. On February 27, 2008 OmniSource presented stack testing results for PE from an OmniSource facility located in Indianapolis, Indiana (Capitol City Metals, LLC) which was replacing the existing cyclone and venturi scrubber with a Smart water injection system of the same (Toledo) configuration. This emissions unit tested at 0.16 lb PE/hr with a production rate of 67.5 tons per hour (0.0024 lb PE/ton). Simultaneous Method 9 opacity readings indicated that this level of emissions resulted in no visible emissions during any test period. Based on this test, OmniSource represented their Toledo PTE as 0.53 pounds of PE per hour and 2.4 tons per year (using 0.0024 lb PE/ton, 224 tons per hour and 8760 hours per year).

Since control by cyclone and scrubber is not unknown in this industry (considering OmniSource's references and the Toledo Shredding installation), we would anticipate a source with these controls could be established as a baseline BAT (e.g., a minimum emissions factor of 0.0109 lb PE/ton). OmniSource has volunteered a more restrictive BAT of 0.0024 lb PE/ton, and unless contrary comment is received, we are willing to accept this BAT level as comprising innovative technology (although it appears that water is also injected into the shredder in the scrubber controlled sources). Because OmniSource has indicated that no stack will be provided for an initial performance demonstration of PE emissions, we will drop PE testing requirements in lieu of the company provided test result calibrations (i.e., 0% opacity by method 9).

OmniSource requested an annual throughput restriction to 720,000 tons per year to avoid the applicability of Title V to this emissions unit (720,000 tpy÷12 mo/yr = 60,000 t/mo).

224 t/hr (0.0024 lb PE/ton) = 0.54 lb PE/hr
720,000 tpy (0.0024 lb PE/ton)(1 t/2000 lb) = 0.86 tpy PE

Our expectation is that PM10 emissions will represent approximately 35% of the PE.

0.54 lb PE/hr (35%) = 0.19 lb PM10/hr
0.86 tpy PE (35%) = 0.30 ton PM10/yr

In their initial application, OmniSource identified emissions from this source as 2.44 lb PE/hr, 10.69 ton PE/yr, 2.18 lb PM10/hr and 9.55 ton PM10/yr.

Also based on stack testing performed at Toledo Shredding, OmniSource requested an emissions limitation for VOC of 0.247 lb/ton. OmniSource requested an annual throughput restriction to 720,000 tons per year to avoid the applicability of Title V to this emissions unit. Should OmniSource develop site specific emissions factors for this emissions unit, a permit modification could be utilized to modify or remove the throughput limitations.

224 ton/hr (0.247 lb/ton) = 55.33 lb VOC/hr
55.33 lb VOC/hr (8760 hr/yr)(1 t/2000 lb) = 242 tpy VOC
720,000 ton/yr (0.247 lb/ton)(1 t/2000 lb) = 88.92 tpy VOC

Note: OmniSource proposed as BAT for VOC control, a program of operational practices designed to limit the amount of VOC entering the airstream with the scrap including the removal (draining) of all VOC containing fluids and "once through" water usage in the shredder. We will accept operational restrictions in lieu of control equipment as BAT for VOC. Also, while these emissions might be described as fugitive, it is apparent that shredder emissions could be passed through a stack. As such, even if the specific equipment to be installed at this site does not have a provision for a stack, it may be considered circumvention of PSD review to not consider these "fugitives" in our major source determination.

A recent similar permit installation for Interstate Shredding, LLC, Facility ID: 0278020750, PTI 02-22999 issued 6/10/2008 for Emissions Unit ID: F001 added as BAT:

Prior to shredding automobiles, appliances, scrap metal, etc.,the following items shall be removed:
a. gasoline tanks;
b. batteries;
c. all combustible fluids;
d. all refrigerants from air conditioning systems; and
e. any switches or components containing mercury.

tpy	OmniSource		Uncontrolled Emissions		Allowable Emissions	
	PE	PM10	PE	PM10	PE	PM10
total	2.4	2.4	39.06[1]	13.63[1]	0.86[2]	0.30[2]

[1] assuming 720,000 tpy throughput but based on 90% effective control with a venturi scrubber [i.e., (0.86)(0.0109/0.0024)/(1-0.90) = 39.06].

[2] This level of emissions allows the applicability of SB-265 for PE and PM10 with voluntary restrictions resulting in tpy limitation (not a rolling, 12-month limitation because Title V was not avoided).

Applicable rules

OAC rule 3745-31-05(A)(3) 55.33 lb VOC per hour

OAC rule 3745-31-05(D)
PE 0.86 ton per year
PM 10 0.30 ton per year
88.92 ton VOC per rolling 12 month period
visible emissions shall not exceed 0% opacity as a 3-minute average

OAC rule 3745-17-07(B)(1) visible fugitive emissions shall not exceed 20% opacity for a 3-minute average

OAC rule 3745-17-08(B) reasonably available control measures that are sufficient to minimize or eliminate visible emissions

OAC rule 3745-17-08(B)(3)(a) The collection efficiency is sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture to the extent possible with good engineering design; and

OAC rule 3745-17-08(B)(3)(b) the control equipment achieves an outlet emission rate of not greater than 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases or there are no visible particulate emissions from the exhaust stack(s), whichever is less stringent

K001 Miscellaneous parts coating

Also among the operations is a maintenance spray paint booth used for maintenance painting of 80 cubic yard metal roll-offs. OmniSource identifies an average of 200 units painted per year with 6 gallons of paint used per roll-off (1200 gallons per year). They identify emissions as 4.88 lb/VOC/gallon, 48.80 lb VOC/day (10 gallon per day stated maximum), 2.92 tons of VOC per year, 30 pounds of HAP per day, and 1.82 tons of HAP per year. OmniSource identifies the enclosure as a DeVilbiss cross flow spray booth with paper filter and the operation as airless spray painting, air dried. Ohio EPA has initiated a General Permit program for paint spray booths with less than 10 gallons of usage per day. This permit restricts the user to 74 pounds of VOC per day, 14 tons of VOC per year, 0.551 lb PE/hr and 2.41 ton of PE/yr.

Since OmniSource has identified annual VOC emissions as a concern, we will restrict annual usage using the General Permit as the basis of our BAT:

1,500 gallons/yr (4.88 lb VOC/gallon of paint)(1 ton/2000 lb) = 3.66 tpy VOC

10 gallons/day (7.6 lb/gal)(0.30 lb solid/lb paint) (1-TE) (1-CE)
10 gallons/day (7.6 lb/gal)(0.30 lb/lb) (1-0.80) (1-0.99)(1 ton/2000 lb) = 0.05 lb/day PE

1,500 gallons/yr (7.6 lb/gal)(0.30 lb solid/lb paint) (1-TE) (1-CE)
1,500 gallons/yr (7.6 lb/gal)(0.30 lb/lb) (1-0.80) (1-0.99)(1 ton/2000 lb) = 0.01 tpy PE

where

E = PE rate (lbs/hr);

TE = fractional transfer efficiency, which is the ratio of the amount of coating solids deposited on the coated part to the amount of coating solids used (0.80% -Table 4.2.2.4-2. ESTIMATED CONTROL EFFICIENCIES FOR METAL COATING LINES

CE = fractional control efficiency of the control equipment (0.99)
Table 4.2.2.1-2 (Metric And English Units). TYPICAL DENSITIES AND SOLIDS CONTENTS OF COATINGS lists air dry enamel characteristics as 7.6 lb/gallon and 39.6% solids by volume (30% by weight per application)

PM10 will be equated to PE for this emissions unit.

Because this emissions unit existed without a permit prior to 2006, SB265 does not apply.

Applicable rules

OAC rule 3745-31-05(A)(3) 0.01 tpy PE
0.01 tpy PM10
3.66 tpy VOC
OAC rule 3745-17-07(A)(1) visible emissions shall not exceed 20% opacity for a 6-minute average
OAC rule 3745-17-11(B)(1) 0.551 pound PE per hour

OmniSource lists HAPs as a concern at <1.66 tpy individual and < 1.82 tpy combined, however failed to provide adequate information to perform state mandated modeling in compliance with the State's air modeling policy. Terms and conditions will be added to the permit to address compliance with the Air Toxics requirements.

Summary (for informational purposes only):
Total Permit Allowable Emissions

Pollutant	Tons Per Year
PE	30.46
PM10	14.25
VOC	92.58

State of Ohio Environmental Protection Agency
Division of Air Pollution Control

DRAFT

Air Pollution Permit-to-Install and Operate

for

OMNISOURCE CORP

Facility ID:	0448011189
Permit Number:	P0103630
Permit Type:	Initial installation
Issued:	7/31/2008
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance

OhioEPA

State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Air Pollution Permit-to-Install and Operate
for
OMNISOURCE CORP

Contents

OhioEPA

State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Draft Permit-to-Install and Operate
Permit Number: P0103630
Facility ID: 0448011189
Effective Date: To be entered upon final issuance

Authorization

Facility ID: 0448011189
Application Number(s): A0005480, A0035533
Permit Number: P0103630
Permit Description: F003 - magnetic separation and conveying of nonferrous material to open storage piles, conveying of ferrous material to open storage piles and ferrous material handling F004 - 12 torching stations, used to disassemble miscellaneous metal parts before they are fed to the shredder F005 - metal shredder, comprised of an enclosed hammermill driven by an electric motor and the associated material separation equipment (z-box with cyclone) K001 - misc metal parts spray booth <10 gpd
Permit Type: Initial installation
Permit Fee: $0.00 *DO NOT send payment at this time - subject to change before final issuance*
Issue Date: 7/31/2008
Effective Date: To be entered upon final issuance
Expiration Date: To be entered upon final issuance
Permit Evaluation Report (PER) Annual Date: To be entered upon final issuance

This document constitutes issuance to:

OMNISOURCE CORP
5000 N. DETROIT AVE
TOLEDO, OH 43612

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Toledo Department of Environmental Services
348 South Erie Street
Toledo, OH 43604
(419)936-3015

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and Federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski
Director

State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Authorization (continued)

Permit Number: P0103630
Permit Description: F003 - magnetic separation and conveying of nonferrous material to open storage piles, conveying of ferrous material to open storage piles and ferrous material handling F004 - 12 torching stations, used to disassemble miscellaneous metal parts before they are fed to the shredder F005 - metal shredder, comprised of an enclosed hammermill driven by an electric motor and the associated material separation equipment (z-box with cyclone) K001 - misc metal parts spray booth <10 gpd

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Emissions Unit ID:	**F003**
Company Equipment ID:	material handling
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**F004**
Company Equipment ID:	torching stations
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**F005**
Company Equipment ID:	scrap metal shredder
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**K001**
Company Equipment ID:	spray booth
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

1. **What does this permit-to-install and operate ("PTIO") allow me to do?**

   This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

2. **Who is responsible for complying with this permit?**

   The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

   The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

3. **What records must I keep under this permit?**

   You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

4. **What are my permit fees and when do I pay them?**

   There are two fees associated with permitted air contaminant sources in Ohio:

   - PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

     You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

   - Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

5. **When does my PTIO expire, and when do I need to submit my renewal application?**

   This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is

very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

6. **What happens to this permit if my project is delayed or I do not install or modify my source?**

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

7. **What reports must I submit under this permit?**

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

8. **If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?**

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. **What are my obligations when I perform scheduled maintenance on air pollution control equipment?**

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.

10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Toledo Department of Environmental Services in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.
You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emission unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

13. Can I transfer this permit to a new owner or operator?

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.

B. Facility-Wide Terms and Conditions

State of Ohio Environmental Protection Agency
Division of Air Pollution Control

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

   a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

      (1) None.

   b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

      (1) None.

C. Emissions Unit Terms and Conditions

1. F003, material handling

Operations, Property and/or Equipment Description:

material handling - magnetic separation and conveying of nonferrous material to open storage piles, conveying of ferrous material to open storage piles and ferrous material handling.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	visible fugitive particulate emissions from this emissions unit shall not exceed 10% opacity as a 3-minute average visible particulate emissions from the cyclone stack shall not exceed 10% opacity as a 6-minute average particulate emissions (PE) from the stack serving the cyclone shall not exceed 3.04 pounds per hour fugitive PE from this emissions unit shall not exceed 12.24 pounds per hour particulate matter emissions less than or equal to 10 microns in diameter (PM10) from the stack serving the cyclone shall not exceed 1.06 pounds per hour fugitive PM10 from this emissions unit shall not exceed 4.49 pounds per hour

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		see (2)a.
b.	OAC rule 3745-31-05(D)	PE, stack and fugitive, from this emissions unit shall not exceed 24.60 tons per year PM10, stack and fugitive, from this emissions unit shall not exceed 8.95 tons per year see (2)b.
c.	OAC rule 3745-17-07(A)(1)	the emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3)
d.	OAC rule 3745-17-07(B)(1)	the emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3)
e.	OAC rule 3745-17-08(B), (B)(3)	the permittee shall utilize reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust see (2)c.

(2) Additional Terms and Conditions

a. The permittee shall employ best available control measures on all material handling operations for the purpose of ensuring compliance with the above-mentioned applicable PE requirements. In accordance with the permittee's application, the permittee has committed to the maintenance of a moisture content of all processed material sufficient to meet the required visible emission limits above at all times and to maintain minimal drop heights to ensure compliance. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

b. Permit to Install and Operate P0103630 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee:

i. maintenance of a moisture content of all processed material sufficient to meet the required visible emission limits at all times;

ii. maintain minimal drop heights to ensure compliance; and

iii. restrict the throughput of materials in this emissions unit to 720,000 tons per year measured as the rolling, 12-month total quantity of material shredded and made enforceable based on a maximum of 720,000 tons per year of material shredded at emissions unit F005.

c. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the reasonably available technology requirements of OAC rule 3745-17-08.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible emissions of fugitive dust from the egress points (i.e., conveyors, conveyor transfer points, separators building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

e) Reporting Requirements

(1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

f) Testing Requirements

(1) Compliance with the emission limitations in Section b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:

a. Emission Limitation:

visible fugitive particulate emissions from this emissions unit shall not exceed 10% opacity as a 3-minute average

Applicable Compliance Method:

Compliance shall be determined in accordance with U.S. EPA Method 9, with the following modifications:

i. the data reduction and average opacity calculation shall be based upon sets of twelve consecutive visible emission observations recorded at 15-second intervals;

ii. opacity observations shall be made from a position that provides the observer a clear view of the emissions unit and the fugitive dust, with the sun behind the observer;

iii. where possible, visible opacity observations shall be conducted at a position of at least fifteen feet from the source of emissions and the line of sight should be approximately perpendicular to the flow of fugitive dust and to the longer axis of the emissions; and

iv. the visible opacity observations shall be made for the point of highest opacity within the fugitive dust emitted from the source.

b. Emission Limitation:

visible particulate emissions from the exhaust stack serving this emissions unit shall not exceed 10% opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 9 and OAC rule 3745-17-03(B)(1).

c. Emission Limitation:

PE from the stack serving the cyclone shall not exceed 3.04 pounds per hour

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit based upon an emissions factor for stack emissions from a Z box separator and cyclone (0.0137 pound of PE per ton for Z-box bleed-off) identified by the Scrap Recycling Industries, Inc. "Title V Applicability Workbook" Appendix

D, Table D-11.E dated 1996, and a maximum shredder processing rate of 224 tons per hour (equivalent to 221.76 tons per hour at the Z box).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1-5 of 40 CFR, Part 60 Appendix A and procedures specified in OAC rule 3745-17-03(B)(10). Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

d. Emission Limitation:

fugitive PE from this emissions unit shall not exceed 12.24 pounds per hour

Applicable Compliance Method:

This emission limitation was established to reflect the worst case maximum rate of fugitive emissions from this emissions unit based on a normalization of the maximum annual allowable fugitive emission rate (14.02 tons per year from conveying operations and 5.65 tons per year from fugitive process emissions in the building), the maximum process throughput rate of the shredder (224 tons per year) and the maximum annual total process throughput rate (720,000 tons per year), as follows:

(14.02 tons/yr + 5.65 tons/yr PE)(2000 lb/ton)(224 tons/hr)÷(720,000 tons/yr)

e. Emission Limitation:

PM10 from the stack serving the cyclone shall not exceed 1.06 pounds per hour

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit based upon an assumption that PM10 constitutes 35% of the PE content.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M. Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

f. Emission Limitation:

fugitive PM10 from this emissions unit shall not exceed 4.49 pounds per hour

Applicable Compliance Method:

This emission limitation was established to reflect the worst case maximum rate of fugitive emissions from this emissions unit based on a normalization of the maximum annual allowable fugitive emission rate (5.16 tons per year from conveying operations and 2.06 tons per year from fugitive process emissions in the building), the maximum process throughput rate of the shredder (224 tons

per year) and the maximum annual total process throughput rate (720,000 tons per year), as follows:

(5.16 tons/yr + 2.06 tons/yr PM10)(2000 lb/ton)(224 tons/hr)÷(720,000 tons/yr)

g. Emissions Limitations:

PE, stack and fugitive, from this emissions unit shall not exceed 24.60 tons per year

PM10, stack and fugitive, from this emissions unit shall not exceed 8.95 tons per year

Applicable Compliance Method:

These limitations were established by calculations adding the individual contributions of the stack and fugitive sources to reflect the full potential to emit for this emissions unit based on a maximum of 720,000 tons per year of material shredded at emissions unit F005 (712,800 tons per year at the Z box).

Stack PE and PM10 limitations shall be determined by multiplying the emission factor for stack emissions from a Z box separator and cyclone (Z box bleed-off) identified by the Institute of Scrap Recycling Industries, Inc. "Title V Applicability Workbook" Appendix D, Table D-11.E dated 1996 (0.0137 pound of PE per ton for PE) utilized to generate the short term emissions factor, by the maximum annual throughput of this emissions unit (712,800 tons per year), assuming PM10 to comprise 35% of the PE by weight.

Fugitive PE and PM10 limitations shall be determined by calculations adding the individual contributions of the fugitive sources as follows:

i. conveyor belt transfer points were estimated using the emission factors taken from AP-42, Chapter 11.19.2. Table 11.19.2-2 EMISSION FACTORS FOR CRUSHED STONE PROCESSING OPERATIONS dated 8/04: 0.0030 pound PE per ton uncontrolled and 0.00014 pound PE per ton controlled by wet suppression, 0.0011 pound PM10 per ton uncontrolled and 0.000046 pound per ton PM10 controlled by wet suppression and 720,000 tons per year of material shredded at emissions unit F005;

ii. Z box emissions were estimated as 10% of the stack allowable emissions;

iii. emissions from the poker picker, magnet, vibrator, combining chute and manual sorting were typified as the equivalent of 10 transfer conveyor belt points;

iv. 50% effective control was allowed based on a building enclosure; and

v. PM10 was assumed to comprise 35% of the PE by weight.

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 180 days of initial start-up.

b. The emission testing shall be conducted to demonstrate compliance with the following emissions limitations:

i. for visible emissions from the cyclone stack; and

ii. for visible emissions from all egress points (i.e., conveyors, separators, building windows, doors, roof monitors, etc.) for which monitoring as performed under d)(1) has indicated the presence of visible emissions.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable visible emissions limitations:

i. for the cyclone stack, Method 9 of 40 CFR Part 60, Appendix A; and

ii. for all egress points (i.e., conveyors, separators, building windows, doors, roof monitors, etc.) serving this emissions unit for the conveyor transfer points, the procedures outlined in OAC rule 3745-17-03(B)(3) shall be used.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Toledo Division of Environmental Services.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Toledo Division of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Toledo Division of Environmental Services' refusal to accept the results of the emission test(s).

f. Personnel from the Toledo Division of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Toledo Division of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Toledo Division of Environmental Services.

g) Miscellaneous Requirements

(1) None.

2. F004, torching stations

Operations, Property and/or Equipment Description:

19 torching stations, used to disassemble miscellaneous metal parts before they are fed to the shredder

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	fugitive particulate emissions (PE) shall not exceed 4.99 tons per year fugitive particulate matter emissions less than or equal to 10 microns in diameter (PM10) shall not exceed 4.99 tons per year see (2)a.
b.	OAC rule 3745-17-07(B)(1)	visible fugitive particulate emissions from this emissions unit shall not exceed 20% opacity as a 3-minute average
c.	OAC rule 3745-17-08(B), (B)(3)	the permittee shall utilize reasonably available control measures that are sufficient to minimize or eliminate

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		visible emissions of fugitive dust see (2)b.

(2) Additional Terms and Conditions

a. Permit to Install and Operate P0103630 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements for PM10 under OAC rule 3745-31-05(A)(3)(b):

i. The permittee shall have fire extinguishers of the appropriate type located near any cutting stations and they shall be employed promptly to extinguish any accidental fires caused by cutting operations.

ii. The permittee shall employ accepted practices when cutting torches are being used to minimize resulting visible emissions. Such practices shall include, but not be limited to, the following items: cutting metal that is clean of any oil(s) or other combustible fluids, the minimization of flame impingement with the ground, and the use of the appropriately sized cutting torch(s).

iii. Oxygen lances or powder metal cutting will not be used.

Implementation of these control measures will be considered adequate to restrict controlled potential particulate emissions to less than 10.0 tons per year. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

b. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the reasonably available technology requirements of OAC rule 3745-17-08.

c) Operational Restrictions

(1) The permittee shall have fire extinguishers of the appropriate type located near any cutting station(s) and they shall be employed promptly to extinguish any accidental fires caused by cutting operations.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records that document, while the emissions unit was in operation, any time periods when:

a. fire extinguishers of the appropriate type were not located near any cutting station(s); and/or

b. fire extinguishers were not employed promptly to extinguish any accidental fires caused by cutting operations when the emissions unit was in operation.

(2) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

e) Reporting Requirements

(1) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

f) Testing Requirements

(1) Compliance with the emission limitations in Section b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:

a. Emission Limitation

Visible emissions of fugitive dust shall not exceed 20 percent opacity as a three-minute average.

Applicable Compliance Method

Compliance shall be determined in accordance with U.S. EPA Method 9, with the following modifications:

i. the data reduction and average opacity calculation shall be based upon sets of twelve consecutive visible emission observations recorded at 15-second intervals;

ii. opacity observations shall be made from a position that provides the observer a clear view of the emissions unit and the fugitive dust, with the sun behind the observer;

iii. where possible, visible opacity observations shall be conducted at a position of at least fifteen feet from the source of emissions and the line of sight should be approximately perpendicular to the flow of fugitive dust and to the longer axis of the emissions; and

iv. the visible opacity observations shall be made for the point of highest opacity within the fugitive dust emitted from the source.

b. Emissions Limitations:

fugitive PE shall not exceed 4.99 tons per year

fugitive PM10 shall not exceed 4.99 tons per year

Applicable Compliance Method:

Compliance with the fugitive PE and PM10 limitations shall be determined by multiplying the fugitive emission factor for cutting clean steel from the Scrap Recycling Industries, Inc. "Title V Applicability Workbook" Appendix D, Table D-5 dated 1996 (0.06 lb/hr), by the number of torching stations (19) and by the maximum annual operating hours for this emissions unit (8,760 hours per year) divided by 2000 pounds per ton. Should updates in the established emission factor occur, the most current emission factor shall be used to determine compliance with these limitations.

g) Miscellaneous Requirements

(1) None.

3. F005, scrap metal shredder

Operations, Property and/or Equipment Description:

224 TPH Scrap metal shredder with electric motor

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	emissions of volatile organic compounds (VOC) from this emissions unit shall not exceed 55.33 pounds per hour see (2)a. and b.
b.	OAC rule 3745-31-05(D)	visible fugitive particulate emissions from this emissions unit shall not exceed 0% opacity as a 3-minute average fugitive particulate emissions (PE) shall not exceed 0.86 ton per year fugitive particulate matter emissions less than or equal to 10 microns in diameter (PM10) shall not exceed 0.30 ton per year emissions of VOC from this emissions unit shall not exceed 88.92 tons per rolling, 12-month period

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		see (2)c.
c.	OAC rule 3745-17-07(B)(1)	the emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D)
d.	OAC rule 3745-17-08(B), (B)(3)	the permittee shall utilize reasonably available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust see (2)d.

(2) Additional Terms and Conditions

a. The permittee shall employ best available control measures on all shredding operations for the purpose of ensuring compliance with the above-mentioned applicable VOC requirements. In accordance with the permittee's application, the permittee has committed to a program of operational practices designed to limit the amount of VOC entering the airstream with the scrap including the removal (draining) of combustible and VOC containing fluids from uncrushed autos, communication to upstream suppliers of OmniSource's Prohibited Materials Program policies and a "once through" water usage in the shredder

Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

b. Prior to shredding uncrushed automobiles, appliances, scrap metal, etc., the following items shall be removed (to the extent practicable):

i. gasoline tanks;

ii. batteries;

iii. all combustible fluids;

iv. all refrigerants from air conditioning systems; and

v. any mercury containing convenience switches or components.

c. Permit to Install and Operate P0103630 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee:

i. restrict the throughput of materials in this emissions unit to 720,000 tons per year measured as the rolling, 12-month total quantity of material;

ii. removal (draining) of all combustible fluids from materials being processed;

iii. water sprays directed at the input chute, cutterhead and output chute; and

iv. "once through" water usage in the shredder.

d. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the reasonably available technology requirements of OAC rule 3745-17-08.

c) Operational Restrictions

(1) Water shall be injected directly into the shredder at the cutterheads, at the input chute and the output chute to control dust emissions. Monitoring, recordkeeping and reporting requirements for the water injection system are not required due to the water injection system being an inherent part of the shredding process.

(2) The moisture content of all processed material shall be maintained sufficiently high enough to meet the required visible emission limits above at all times.

(3) The maximum annual production rate for this emissions unit shall not exceed 720,000 tons per year, based upon a rolling, 12-month summation of the production rates.

To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the production levels specified in the following table:

Month	Maximum Allowable Cumulative Production
1	160,000
1-2	320,000
1-3	480,000
1-4	640,000
1-5	720,000
1-6	720,000
1-7	720,000
1-8	720,000
1-9	720,000
1-10	720,000
1-11	720,000
1-12	720,000

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual production rate limitation shall be based upon a rolling, 12-month summation of the production rates.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain monthly records of any failure to remove prior to shredding automobiles, appliances, scrap metal, etc., the following items:

a. gasoline tanks;

b. batteries;

c. all combustible fluids;

d. all refrigerants from air conditioning systems; and

e. all mercury containing convenience switches or components.

(2) The permittee shall maintain monthly records of the following information:

a. the production rate for each month; and

b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the production rates.

(3) The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible emissions of fugitive dust from the egress points (i.e., feeder, shredder, discharge chute, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the location and color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the

emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify:

a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the Potential to Emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:

i. all exceedances of the rolling, 12-month production rate limitation; and

ii. for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative production rate levels;

b. the probable cause of each deviation (excursion);

c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and

d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the director (the Toledo Division of Environmental Services).

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

f) Testing Requirements

(1) Compliance with the emission limitations in Section b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:

a. Emission Limitation:

visible fugitive particulate emissions from this emissions unit shall not exceed 0% opacity as a 3-minute average

Applicable Compliance Method:

Compliance shall be determined in accordance with U.S. EPA Method 9, with the following modifications:

i. the data reduction and average opacity calculation shall be based upon sets of twelve consecutive visible emission observations recorded at 15-second intervals;

ii. opacity observations shall be made from a position that provides the observer a clear view of the emissions unit and the fugitive dust, with the sun behind the observer;

iii. where possible, visible opacity observations shall be conducted at a position of at least fifteen feet from the source of emissions and the line of sight should be approximately perpendicular to the flow of fugitive dust and to the longer axis of the emissions; and

iv. the visible opacity observations shall be made for the point of highest opacity within the fugitive dust emitted from the source.

b. Emission Limitation:

fugitive PE shall not exceed 0.86 ton per year

fugitive PM10 shall not exceed 0.30 ton per year

Applicable Compliance Method:

These limitations were established to reflect the full potential to emit for this emissions unit based on a maximum of 720,000 tons per year of material shredded utilizing a company supplied emissions factor (0.0024 lb PE/ton) determined during stack testing of a similar emissions unit. PM10 was established as 35% of the PE emissions.

If required, the permittee shall demonstrate compliance with the short term emission limitations (lb/ton) in accordance with Methods 1 thru 5 of 40 CFR Part 60, Appendix A and Methods 201 and 202 of 40 CFR Part 51, Appendix M. Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

If required, the capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

c. Emission Limitation:

emissions of VOC from this emissions unit shall not exceed 55.33 pounds per hour

This limitation was established to reflect the full potential to emit for this emissions unit utilizing a company supplied emissions factor (0.247 lb VOC/ton) determined during stack testing of a similar emissions unit.

If required, the permittee shall demonstrate compliance with this emission limitations in accordance with Methods 1 thru 4 and 25 or 25 A, as appropriate, of 40 CFR Part 60, Appendix A, and the procedures outlined in OAC rule 3745-21-10(C). Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services.

If required, the capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

d. Emission Limitation:

emissions of VOC from this emissions unit shall not exceed 88.92 tons per rolling, 12-month period

Applicable Compliance Method:

These limitations were established to reflect the full potential to emit for this emissions unit based on a maximum of 720,000 tons per rolling, 12-month period of material shredded utilizing a company supplied emissions factor (0.247 lb VOC/ton) determined during stack testing of a similar emissions unit.

If required, the permittee shall demonstrate compliance with the short term emission limitation (lb/ton) in accordance with Methods 1 thru 4 and 25 or 25 A, as appropriate, of 40 CFR Part 60, Appendix A, and the procedures outlined in OAC rule 3745-21-10(C). Alternate, equivalent methods may be used upon approval by the Toledo Division of Environmental Services. The capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 90 days of achieving the maximum capacity at which this emissions unit will be operated, but not less than 180 days after initial startup.

b. The emission testing shall be conducted to demonstrate compliance with the allowable visible particulate emissions limitation.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

U.S. EPA Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3). Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Toledo Division of Environmental Services.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Toledo Division of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Toledo Division of Environmental Services' refusal to accept the results of the emission test(s).

f. Personnel from the Toledo Division of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Toledo Division of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Toledo Division of Environmental Services.

g) Miscellaneous Requirements

(1) None.

4. K001, spray booth

Operations, Property and/or Equipment Description:

Miscellaneous coating operations

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. c)(3) and d)(4)

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	particulate emissions (PE) from the stack serving this emissions unit shall not exceed 0.01 ton per year particulate matter emissions less than or equal to 10 microns in diameter (PM10) from the stack serving this emissions unit shall not exceed 0.01 ton per year the emissions of volatile organic compound (VOC) from the stack serving this emissions unit shall not exceed 3.66 tons per rolling 12-month period, including both coatings and cleanup materials see (2)a.
b.	OAC rule 3745-17-07(A)(1)	visible emissions from the stack serving this emissions unit shall not exceed 20% opacity, as a six - minute

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		average, except as specified by rule
c.	OAC rule 3745-17-11(B)(1)	PE from the stack serving this emissions unit shall not exceed 0.551 pound per hour
d.	OAC rule 3745-21-09(U)(2)(e)(iii)	Exempt, see (2)b.

(2) Additional Terms and Conditions

a. Permit to Install and Operate P0103630 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements for PM10 under OAC rule 3745-31-05(A)(3)(b):

i. the permittee shall not use more than 10 gallons of coating material per day;

ii. the permittee shall not use more than 1500 gallons of coating material per rolling, 12-month period;

iii. the permittee shall a maximum 4.88 pound of VOC per gallon coating material, as applied, for the coating of miscellaneous metal parts;

iv. the permittee shall utilize no VOC containing clean up materials or solvents in the coating operations for parts cleaning, thinning or reducing coatings, to clean paint guns, booth walls, etc.;

v. all coating operations will utilize an airless spray gun; and

vi. all coating operations will utilize a paint spray booth equipped with an exhaust gas filtration system.

b. The permittee shall not use more than 10 gallons of coating material per day for the coating of miscellaneous metal parts.

c) Operational Restrictions

(1) The permittee shall operate the dry filtration system for control of particulate emissions whenever this emissions unit is in operation.

(2) The maximum annual coating usage rate for this emissions unit shall not exceed 1,500 gallons per year, based upon a rolling, 12-month summation of the coating usage rates.

To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the coating usage levels specified in the following table:

Month	Maximum Allowable Cumulative Coating Usage (gallons)
1	300
1-2	600
1-3	900
1-4	1,200
1-5	1,500
1-6	1,500
1-7	1,500
1-8	1,500
1-9	1,500
1-10	1,500
1-11	1,500
1-12	1,500

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual coating usage rate limitation shall be based upon a rolling, 12-month summation of the coating usage rates.

(3) Prior to the use of any coating in this coating line, the permittee shall determine that the coating meets the toxic screening criteria described below.

Purpose: The purpose of this test is to evaluate coatings to determine if the chemical compounds in the coatings would be emitted at acceptable levels for the general permit.

Data Needed: (1) MSDS sheet for each coating to be evaluated. (2) Information on the maximum coating usage rate for the line as discussed in Step 1 below.

Step 1. Using the following factors, calculate the maximum coating usage rate in terms of gallons per hour:

a. Assume the coating line operates at its maximum speed while still making usable product.

b. Assume the coating line is operating at its largest coating laydown rate. This would typically be accomplished by assuming the coating line is painting the largest part available.

Step 2. Review the material safety data sheet (MSDS) for the coating. Note each chemical compound listed its TLV and the percent by weight of the chemical compound in the coating.

Step 3. Determine if any of the chemical compounds listed in the MSDS are also listed in the following table. If any of the chemical compounds are listed in the table, then calculate the maximum annual emission of that compound by multiplying the maximum coating usage rate times the percent by weight of each chemical compound. Then multiply the result by 8760 hours per year. The result will be in pounds per year.

Check to see if the calculated emission rate is less than the allowable emission rate found in the below table. If all of the compounds emitted have a maximum annual emission of less than the allowed rate, then move on to step 4. If any of the compounds are emitted at a rate higher than the allowed emission rate, then contact your appropriate District Office or local air agency contact to determine if you can use the coating.

Chemical Compound	CAS	Molecular Weight (MW)	Allowed Emission Rate (lb/year)
arsenic compounds, as As	7440-38-2	74.92	1.70
benzene	71-43-2	78.11	1100
benzidine	92-87-5	184.23	5.60
benzo(a)pyrene	50-32-8	252.30	6.90
beryllium (and Be compounds)	7440-41-7	9.01	0.350
Cadmium	7440-43-9	112.4	5.20
Chromium	7440-47-3	varies	0.690
Hexachlorobenzine (HCB)	118-74-1	289.78	35.0
mercury (and Hg compounds)	7439-97-6	200.59	0.1
nickel (Ni subsulfide)	12035-72-2	240.19	17.0
Polychlorinated dibenzo-p-dioxins	1746-01-6	varies	0.030
Polychlorinated dibenzofurans	132-64-9	varies	0.030
polychlorinated biphenyls (PCBs, aroclors)	1336-36-3	varies	87.0
vinyl chloride	75-01-4	62.50	2000

Step 4. Find all of the chemical compounds in the coating that have a listed American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV). For each chemical compound with a listed TLV (other than those in the above table), calculate the maximum short-term emission rate by multiplying the maximum coating usage rate times the percent by weight of each chemical compound. The result should be in terms of pounds of the chemical compound per hour.

Step 5. Determine if the compound will be emitted at or below the acceptable rate. This is done by searching the following table for the chemical compound's TLV and then determining the maximum allowed emission rate listed in the below table. (Note. If the TLV is listed as ppm, then convert the TLV to $\mu g/m^3$ by using the following formula: (TLV in ppm)x(MW)x(1000)/24.45 = TLV in $\mu g/m^3$; where MW is the molecular weight of the compound.) This table lists the allowable emission rates for compounds with a TLV between the high range and low range. Compare the maximum calculated short-term emission rate of each chemical compound to the allowed emission rate in the table. If

the maximum emission rate is less than the allowed emission rate, then the chemical compound is emitted at an acceptable rate.

TLV Range ($\mu g/m^3$) (The TLV must be less than the high value listed and greater than or equal to the low value listed)		Allowed Emission Rate (lb/hr)
15	1	0.000067
30	15	0.0010
60	30	0.0020
120	60	0.0040
240	120	0.0080
480	240	0.0160
960	480	0.0320
1,920	960	0.0640
3,840	1,920	0.128
7,680	3,840	0.256
15,360	7,680	0.512
30,720	15,360	1.02
61,440	30,720	2.05
122,880	61,440	4.10
245,760	122,880	8.19
491,520	245,760	16.4
983,040	491,520	32.8
1,966,080	983,040	65.5
3,932,160	1,966,080	131

Step 6. Check each chemical compound that has a listed TLV. If all compounds are emitted at a rate less than the allowed emission rate, then the coating passes the toxic screening test and can be used under this permit. If one or more of the chemical compounds are emitted at a rate greater than the allowed emission rate, then you should contact your appropriate District Office or local air agency contact to determine if you can use the coating.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records that document any time periods when the dry filtration system was not in service when the emissions unit was in operation.

(2) The permittee shall collect and record the following information each day for this emissions unit:

a. the name and identification number of each coating employed in the coating line;

b. the mass of VOC per volume of each coating (excluding water and exempt solvents), as applied;

c. the volume, in gallons, of each coating employed in the coating line; and

d. the total volume, in gallons, of all of the coatings employed in the coating line.

These records shall be maintained for a period of not less than three years.

(3) The permittee shall collect and record the following information for each month for this emissions unit:

a. the company identification of each VOC containing cleanup material employed;

b. the VOC content of each cleanup material employed, in pounds per gallon;

c. the number of gallons of each VOC containing cleanup material employed;

d. the total volume, in gallons, of all of the coatings employed in the coating line; and

e. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the coating usage rates. Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative production rate for each calendar month.

(4) The permittee shall collect and record the results of any toxic screening evaluations done per c)(3).

e) Reporting Requirements

(1) The permittee shall notify the Director (the City of Toledo, Division of Environmental Services) in writing of any daily record showing that the coating line employed more than the applicable maximum daily coating usage limit of 10 gallons per day. The notification shall include a copy of such record and shall be sent to the Director (the City of Toledo, Division of Environmental Services) within 45 days after the exceedance occurs.

(2) The permittee shall submit quarterly deviation (excursion) reports that identify:

a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the Potential to Emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:

i. all exceedances of the 4.88 pounds of VOC per gallon of coating limitation;

ii. all exceedances of the no VOC containing clean up materials or solvents limitation;

iii. all exceedances of the rolling, 12-month coating usage rate limitation; and

iv. for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative coating usage rate levels.

b. the probable cause of each deviation (excursion);

c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and

d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted (postmarked) each year by the thirty-first of January (covering October to December), the thirtieth of April (covering January to March), the thirty-first of July (covering April to June), and the thirty-first of October (covering July to September), unless an alternative schedule has been established and approved by the director (the Toledo Division of Environmental Services).

(3) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

a. Emissions Limitation:

10 gallons per day total coating usage

Applicable Compliance Method:

Compliance shall based upon the record keeping specified in d)(2).

b. Emissions Limitation:

4.88 pounds of VOC per gallon of coating

Applicable Compliance Method:

Compliance shall based upon the record keeping specified in d)(3).

If required, the permittee shall demonstrate compliance through the methods and procedures of OAC rule 3745-21-10(B). USEPA Methods 24 shall be used to determine the VOC contents of the coatings. If, pursuant to Method 24 as outlined in 40 CFR Part 60, Appendix A, an owner or operator determines that Method 24 cannot be used for a particular coating, the permittee shall so notify the Administrator of the USEPA and shall use formulation data for that coating to demonstrate compliance until the USEPA provides alternative analytical procedures or alternative precision statements for Method 24.

c. Emissions Limitation:

no VOC containing clean up materials or solvents

Applicable Compliance Method:

Compliance shall based upon the record keeping specified in d)(3).

d. Emissions Limitation:

3.66 tons per year of VOC emissions from coatings

Applicable Compliance Method:

This limitation was established to reflect the full potential to emit for this emissions unit based on a maximum coating usage of 1,500 gallons per rolling, 12-month period utilizing a maximum 4.88 pounds of VOC per gallon coating material, as applied, and no VOC containing clean up materials. Compliance shall based upon the record keeping specified in d)(3).

e. Emission Limitation:

0.551 lb of PE per hour

Applicable Compliance Method:

To determine the worst case PE rate, the following equation shall be used:

E = maximum coating solids usage rate, in pounds per hour, x (1-TE) x (1-CE)

Where E = PE rate (lbs/hr);

TE = fractional transfer efficiency, which is the ratio of the amount of coating solids deposited on the coated part to the amount of coating solids used (0.80) based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 4.2.2.4-2. ESTIMATED CONTROL EFFICIENCIES FOR METAL COATING LINES dated 1/95);

CE = fractional control efficiency of the control equipment (0.99).

When requested by the Ohio EPA, the permittee shall demonstrate compliance with the above emissions limitation pursuant to OAC rule 3745-17-03(B)(10).

f. Emission Limitation:

0.01 ton of PE per year

0.01 ton of PM10 per year

Applicable Compliance Method:

These limitations were established to reflect the full potential to emit for this emissions unit based on a maximum application rate of 1,500 gallons per rolling,

12-month period of material. Compliance with the fugitive PE and PM10 limitations shall be determined utilizing factors from AP-42 Table 4.2.2.1-2 TYPICAL DENSITIES AND SOLIDS CONTENTS OF COATINGS as follows: multiply the maximum coating usage rate (1500 gallons per year) by the characteristic enamel density (7.6 pounds per gallon), by the characteristic solids content (0.30 pound of solid per pound of coating), by 1 minus the characteristic transfer efficiency (1-80%), by 1 minus the control efficiency (1-99%) and divide by 2000 pounds per ton.

g) Miscellaneous Requirements

(1) None.

December 9, 2019

City of Chicago, Department of Public Health
Attn: Environmental Permitting and
Inspections 333 South State Street, Room 200
Chicago, IL 60604

Re: Supplemental Comments on Proposed Rules For Large Recycling Facilities

To Whom It May Concern:

This letter provides supplemental comments on the Department of Health's Proposed Rules For Large Recycling Facilities ("Proposed Rules"). These supplemental comments provide additional information in support of comments previously submitted on June 21, 2019 ("the June 21 Comments")[1], on behalf of the Southeast Environmental Task Force ("SETF") and the Chicago South East Side Coalition to Ban Petcoke, active community groups dedicated to improving the Calumet neighborhood's environment; the Little Village Environmental Justice Organization ("LVEJO"), which is committed to organizing with the Little Village community to accomplish environmental justice, and to achieve the self- determination of immigrant, low-income, and working-class families; and the Natural Resources Defense Council ("NRDC") and our roughly 10,000 members and activists in the City of Chicago, including those who reside on the Southeast Side and along the I-55 Southwest corridor. We appreciate the opportunity to provide these supplemental comments.

Introduction

In the June 21 Comments, we urged the Chicago Department of Public Health ("CDPH") to strengthen its Proposed Rules in order to better protect Chicago's residents, including several environmental justice communities, from the well-documented health and environmental hazards presented by operations of large recycling facilities in the city. We write now to supplement those comments with respect to auto shredder residue ("ASR") and torch cutting, both of which require more stringent regulations than those proposed by CDPH in order to protect public health and the environment in nearby communities.

Additional Comments Concerning ASR

As set out in the June 21 Comments, ASR poses significant threats to human health and the environment. Air impacts from ASR include inhalable toxic heavy metals, for example hexavalent chromium, as well as volatile organic compounds, which also contain a variety of volatile toxic air contaminants. These contaminants cause cancer, asthma, and damage to the naval passages and skin.[2] We therefore urged CDPH to modify its Proposed Rule to require that

[1] Ex. 1, Comments on Proposed Rules for Large Recycling Facilities. (June 21, 2019) (attached).
[2] Ex. 1 at 3.

all recycling operations that involve ASR, including processing, storage, staging, conveyance, and transport, be fully enclosed and employ robust air pollution and fire protection controls as well as other needed protective measures.[3]

We now supplement those comments with additional information concerning the toxicity of ASR and the resulting need to properly treat and store ASR. We submit these supplemental comments with respect to ASR given multiple industry commenters' assertions that "ASR is nonhazardous" and does not pose a leaching hazard.

In addition to the metals noted above, ASR contains levels of lead, copper and zinc in finely divided form that may exceed health protective concentrations.[4] ASR may also contain hazardous levels of cadmium and PCBs.[5] The toxic metals and/or chemicals in ASR pose dangers both as components of fugitive dust throughout the recycling process[6] and through leakage during storage[7] and transport.[8]

The hazards of ASR can be reduced through treatment using methods to stabilize and/or solidify the waste and, as urged in the June 21 Comments, the Proposed Rules should require that recycling facilities designate on-site and off-site methods that will be used to address ASR wastes.[9] Because of the particular toxicity of *untreated* ASR, which some facilities covered by the proposed rules will generate and handle, the Proposed Rules should be modified to prohibit any storage of untreated ASR on-site.[10] That is, all ASR must be treated onsite (after being moved within the facility via totally enclosed handling steps) or immediately shipped offsite for treatment. Further, while treating of ASR reduces the mobility of toxic heavy metals in the residue, it does not completely eliminate the toxic characteristics of the metals.[11] The Proposed Rules should, as set forth in our original comments, therefore be modified to require enclosure of all ASR throughout the recycling process, including during processing, conveyance, storage

[3] Ex.1 at 17-21.
[4] Ex. 2, California Department of Toxic Substances Control, *DRAFT Evaluation and Analysis of Metal Shredding Facilities and Metal Shredder Wates,* January 2018 at 41-42, available at https://dtsc.ca.gov/wp-content/uploads/sites/31/2017/01/Metal-Shredder-Analysis-DRAFT.pdf ("DTSC Metal Shredding January 2018")(As noted in the June 21 Comments, this report is marked "DRAFT" and "Do not cite or quote." A final report has not been published; the Draft is cited here because of the important scope of the work and relevant draft findings.)
[5] *Id.*
[6] *See, for example,* Ex. 3, Arturo J. Blanco, Loren Raun and Don Richter, Houston Department of Health & Human Services, Bureau of Pollution Control and Prevention, "What is actually emitted from Area Sources: Results of a Special Study of Metals Recyclers," available at https://www3.epa.gov/ttnamti1/files/2012conference/3BRaun.pdf .
[7] Ex. 1 at 21; Ex. 2 at 50-51.
[8] Ex. 2 at 52.
[9] Ex. 1 at 21.
[10] As noted in the June 21 Comments, ASR is a special waste under Illinois regulations and all aspects of the ASR waste stream – both untreated and treated – should be properly scored and characterized for their toxicity and managed appropriately during collection, treatment, conveyance, storage and transport. Ex. 4, Illinois EPA, "Do I Have a Special Waste?" available at https://www2.illinois.gov/epa/topics/waste-management/waste-disposal/special-waste/Pages/do-i-have.aspx . *See also*, 35 Ill. Admin. Code 808. Further,
[11] Ex. 2 at 43.

and transportation. Further, the Proposed Rules should be modified to ensure that storage of treated ASR is conducted on surfaces and in containers that will prevent leakage to ground water or surface water through run-off.[12]

Additional Comments Concerning Torch Cutting

We submit supplemental comments on the impacts to air quality from torch cutting given industry commenter's assertion that torch cutting is an "inconsequential" source of air pollution (and thus should be omitted from the required air quality modeling analysis). Torch cutting is used in the recycling process to break apart large metal pieces. Torch cutting typically uses gas, but torches may also use plasma or powder.[13] [14] Torch cutting vaporizes metal, resulting in airborne toxic metals as well as dust and opacity (the latter potentially in excess of state opacity standards) and, depending on the type of torch used, may create large amounts of smoke and noise.[15] Torch cutting is especially concerning because it generates fine particulate matter air pollution (PM 2.5).[16] Even short term exposure to particulate matter air pollution is associated with morbidity and mortality, especially with respect to fine particulate matter (PM 2.5).[17] Metals generated in fine particles by torch cutting include nickel, cadmium, hexavalent chromium,

[12] *See* Ex. 2 at 111 (Noting that the study's conclusion that chemically treated metal shredder residue ("CTMSR") found no greater impact from landfills that handled CTMSR assumed containment of the waste in lined portions of the landfills: "Because DTSC's conclusions are based on comparative analyses using data from landfills that are currently receiving CTMSR, DTSC's conclusions would continue to be supported only if the solid waste landfills to which CTMSR is sent meet the same general description as those to which it has been sent historically. The landfills that have historically received CTMSR have disposed or used as ADC in a composite-lined portion of their solid waste landfill unit which meet all requirements applicable to disposal of municipal solid waste in California after October 9, 1993, and the landfills are authorized to accept it by the appropriate [water quality control authority].").
[13] Ex. 5, OSHA, Guidance for the Identification and Control of Safety and Health Hazards in Metal Scrap Recycling at 9-10 ("OSHA Guidance"), available at https://www.osha.gov/Publications/OSHA3348-metal-scrap-recycling.pdf.
[14] Torch cutting should be considered distinct from "cutting," which is considered an "insignificant" activity under IAC Section 201.210, available at http://www.ilga.gov/commission/jcar/admincode/035/035002010F02100R.html The regulatory history of Section 201.210 points to insignificant activities being minor sources of air pollution that do not contribute significantly to the health and environmental goals underlying Title V of the Clean Air Act. *See* 415 ILCS Section 5/39.5/(5)(w), available at http://www.ilga.gov/legislation/ilcs/ilcs4.asp?ActID=1585&ChapterID=36&SeqStart=44100000&SeqEnd=45600000; Illinois Pollution Control Board Rulemaking R94-14 (June 1994) ("IPBC Rulemaking") available at https://pcb.illinois.gov/Cases/GetCaseDetailsByID?caseID=4982 . In contrast, as detailed above, torch cutting at recycling facilities contributes significant hazardous air pollution in communities located nearby and research indicates that increased fine size particulate matter generated by torch cutting increases cancer risk in those communities. *See* above at p.3 and Ex. 6. Further, testimony during the IPCB Rulemaking by an Illinois EPA representative strongly suggested that even insignificant activities that in fact have a significant environmental impact may be regulated as part of a CAAPP permit. Ex. 6, Testimony of Christopher Romaine *during* IPCB Rulemaking at 8-9 (June 1994) ("Based on the list of insignificant activities submitted in a CAAPP application, the Agency or USEPA may find during the course of permitting that an activity should not qualify as insignificant.").
[15] OSHA Guidance at 11; *see also* Ex. 7, Michigan Department of Environmental Quality, Violation Notice to RJ Industrial Recycling (June 25, 2016), available at https://www.deq.state.mi.us/aps/downloads/SRN/N7885/N7885_VN_20160525.pdf.
[16] Ex. 8, L. Raun, K. Pepple, D. Holyt, D. Richner, A.Blanco, and J. LI, *Unanticipated potential cancer risk near metal recycling facilities*, Environmental Impact Assessment Review 41 at 71 (2013) ("Raun, et. al.").
[17] *Id.* at 71; *see also, e.g.,* Ex. 9, World Health Organization, "Health Effects of Particulate Matter Policy implications for countries in eastern Europe, Caucuses, and central Asia" at 6 (2013), available at http://www.euro.who.int/__data/assets/pdf_file/0006/189051/Health-effects-of-particulate-matter-final-Eng.pdf ("The health effects of inhalable PM are well documented. They are due to exposure over both the short term (hours, days) and long term (months, years) and include: • respiratory and cardiovascular morbidity, such as aggravation of

and copper, all of which are carcinogenic.[18] In a study based on monitoring at five recycling facilities in Houston, researchers concluded that the increased cancer risk from ambient air concentrations of these metals generated at the recycling facilities ranged from 1 case in 1 million to 8 cases in 10,000.[19] Torch cutting also generates hazardous lead dust.[20]

Because of these substantial dangers of ambient air contamination generated by torch cutting, the Proposed Rules should be modified to require that all torch cutting at recycling facilities be conducted only in fully enclosed and properly ventilated structures.

Thank you for your consideration of these comments. Please contact us if you have any questions or comments.

Sincerely,

/s/ Keith Harley

Keith Harley, Attorney for SETF and LVEJO
Environmental Law Program Director, Chicago Legal
Clinic Chicago Kent Law School
211 W. Wacker Drive, Suite 750
Chicago, IL 60606

/s/ Meleah Geertsma

Meleah Geertsma, Attorney for
NRDC
20 N. Wacker Drive, Suite 1600
Chicago, IL 60606

/s/ Nancy C. Loeb

Nancy C. Loeb, Attorney for
Chicago South East Side Coalition to Ban Petcoke
Northwestern Pritzker School of Law
375 E. Chicago Avenue
Chicago, IL k60611

asthma, respiratory symptoms and an increase in hospital admissions; • mortality from cardiovascular and respiratory diseases and from lung cancer.").

[18] *Id*. at 73.

[19] *Id.* at 75.

[20] Ex. 10, New York State Dept. of Health, *Metal Recycling Industry Project*, available at https://www.health.ny.gov/environmental/workplace/metal_recycling/metal_recycling_report.htm.

Exhibit 6.

R 006731

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
CATEGORIES OF INSIGNIFICANT ACTIVITIES OR EMISSION LEVELS AT A CAAPP SOURCE, AMENDMENTS TO 35 ILL. ADM. CODE PARTS 201 AND 211.	)	R94-14 (Rulemaking)

Testimony of Christopher Romaine
Illinois Environmental Protection Agency

June 1994

I. INTRODUCTION

My name is Christopher Romaine. I am testifying for the Illinois Environmental Protection Agency ("Agency"). I am employed as Manager of the New Source Review Unit of the Permit Section in the Division of Air Pollution Control.

I have a Bachelor of Science Degree in Engineering from Brown University and have completed course work toward a Masters Degree in Environmental Engineering from Southern Illinois University. I am a Professional Engineer. I have worked for the Agency since June 1976.

As manager of the New Source Review Unit, I have programmatic responsibility for permitting activities related to certain federal or federally derived rules for new or modified sources. These rules include New Source Performance Standards (40 CFR Part 60), Prevention of Significant Deterioration of Air Quality (40 CFR 52.21), and Major Stationary Sources Construction and Modification (35 Ill. Adm. Code Part 203). I assist permit analysts in the Division of Air Pollution Control in their review of permit applications and examine their work. I am also responsible for coordination of Permit Section activities with respect to these programs with the United States Environmental Protection Agency ("USEPA") and the Agency's program development.

As part of my duties at the Agency, I assist in certain aspects of program development for the Division of Air Pollution Control. One of these is the development of regulations. I have been the Agency's technical expert in Board proceedings regarding New Source Review rules: R81-16, R85-20, and R92-21. I have also

participated in numerous regulatory proceedings dealing with the control of Volatile Organic Material emissions, including R86-18, R91-8, and R93-9.

I was a member of the Agency workgroup chaired by Donald Sutton, Manager of the Air Permit Section, that developed this proposal. My testimony provides the technical support for the Agency's proposal. The purpose of this rulemaking is to amend Parts 201 and 211 to define insignificant activities or emission levels for purposes of Illinois' Clean Air Act Permit Program. The testimony includes an overview of the Clean Air Act Permit Program, an explanation of the Agency's proposed approach to insignificant activities and emission levels, and a detailed discussion of the proposed amendments.

II. OVERVIEW

A. Historical Background

Section 502(d) of the Clean Air Act, as amended in 1990, required Illinois to develop and submit to USEPA a permit program that meets the requirements of Title V of the Clean Air Act and the federal regulations promulgated thereunder (40 CFR Part 70). Illinois adopted new Section 39.5 of the Environmental Protection Act ("Act") establishing Illinois' program known as the Clean Air Act Permit Program or "CAAPP." This program is intended to meet all federal requirements. Draft application forms and other necessary documentation and supporting procedures have also been generally developed by the Agency. On November 15, 1993, the Agency submitted Illinois' CAAPP program to USEPA for approval. Implementation of the CAAPP by the Agency will begin when the program is approved by USEPA. All

CAAPP applications for existing major sources are to be submitted in the year following approval of the program by USEPA. The Agency is to complete issuance of permits for these sources within three years of program approval by USEPA.

Although the federal regulations allow for States to designate insignificant activities and emission levels for State Title V programs, States are not required to do so. The CAAPP currently submitted to USEPA does not specifically identify such activities or emission levels. However, the Agency is required, pursuant to Section 39.5(5)(w) of the Act, to propose regulations to the Board defining insignificant activities or emission levels for purposes of CAAPP permitting. These regulations must be consistent with the federal regulations for Title V permit programs. The federal regulations provide that 1) the Administrator may approve as part of a State program a list of insignificant activities and emission levels which need not be included in permit applications, 2) for insignificant activities which are exempted because of size or production rate, a list of such insignificant activities must be included in the permit, and 3) an application may not omit information needed to determine the applicability of, or to impose, any applicable requirement (See 40 CFR 70.5(c)).

The Agency has submitted the proposed amendments to 35 Ill. Adm. Code Part 201 to the Pollution Control Board to comply with the mandate of Section 39.5(5)(w) of the Act. The Agency is also proposing amendments to 35 Ill. Adm. Code Part 211 to add definitions for certain terms used in the proposed amendments to Part 201. Upon adoption by the Board, the Agency will be submitting these amendments to Parts 201 and 211 to USEPA for review as an additional aspect of Illinois' CAAPP.

Accordingly, the scope of insignificant activities and emission levels is a potential concern for all sources required to have CAAPP permits. These sources include any "major source" as defined in Section 39.5(2)(c) of the Act.

The proposed amendments to Part 201, Subpart F, would establish insignificant activities and emission levels at a CAAPP source. Classification of an activity or emission level as insignificant is relevant primarily for purposes of preparing a CAAPP application. It is also relevant for the subsequent content of the CAAPP permit. It is also important for the ongoing operation of a source because it is expected that an owner or operator of a CAAPP source will not be required to address insignificant activities in anywhere near the same level of detail as other activities at the CAAPP source.

The classification of an activity as insignificant, so that detailed emission data would not have to be provided, would also effectively exclude the activity from consideration for purposes of fees. This impact should be minimal, for both sources and the Agency, if insignificant activities and emission levels are established appropriately. Moreover, the Clean Air Act requires the CAAPP to be self-sustaining, irrespective of the treatment of insignificant activities and emission levels.

It must be stressed that classification of activities as insignificant cannot be relied upon for purposes of applicability, that is, to show that a source is not a major source. For purposes of applicability, insignificant activities can count, and a source cannot rely on them as the difference between being a major and non-major source. In this respect, a source that is required to submit a CAAPP application, but is seeking

a Federally Enforceable State Operating Permit ("FESOP"), may have to provide additional information about insignificant activities. This additional information will have to show that the restrictions in a FESOP will ensure that the source is not a major source, even after accounting for all emissions from insignificant activities.

D. Coordination with Current State Operating Permit Program

35 Ill. Adm. Code Part 201 contains Illinois' regulations requiring state operating permits for sources of air pollution. In addition to addressing insignificant activities and emission levels for CAAPP permitting, proposed Subpart F also provides that the existing state operating permit requirement and associated permitting procedures do not apply for purpose of the CAAPP. This is intended to avoid confusion between the existing state operating permit program and the new federal CAAPP operating permit program.

III. EXPLANATION OF AGENCY PROPOSAL FOR INSIGNIFICANT ACTIVITIES

The Agency's proposal represents a multi-layered approach to insignificant activities, with four layers or classes of insignificant activities. The first layer identifies various "non-traditional" activities at sources, such as cafeterias, office equipment, groundskeeping, vehicle maintenance, building maintenance, etc., that are considered insignificant. These activities are not routinely permitted now and the Agency proposes to formalize this practice for purposes of the CAAPP. In conjunction with these provisions, the proposal also clarifies that certain emission units, such as leaking components, should be addressed as a group rather than individually in a CAAPP application. The second layer identifies a number of specific categories of equipment

and operations, such as "small" boilers, "small" tanks and "small" printing operations, below certain sizes or activity levels that can be considered insignificant. In the third layer, the proposal establishes emission levels that are considered insignificant. These levels are set for those regulated air pollutants that are not listed as hazardous air pollutants. The proposed insignificant emission levels for these pollutants are 0.1 pound/hour and 0.44 ton/year, expressed as emissions prior to any control device. The final layer of the Agency's approach to insignificant activities is a case-to-case process whereby a source may propose that an activity with emissions of up to 1.0 pound/hour be considered insignificant, subject to acceptance or rejection by the Agency.

The four classes of activities proposed by the Agency to be insignificant are further differentiated based on whether an activity must be individually listed in an application. All of the "non-traditional" activities and some of the specific "traditional" activities need not be individually listed in the application. These activities do not include size or throughput restrictions and these activities are expected to be present at most if not all sources. (See proposed 35 Ill. Adm. Code 201.210(b)). All of the other insignificant activities, including the other traditional emission units, the emissions criteria activities, and the case-by-case activities must be individually listed. (See proposed 35 Ill. Adm. Code 201.210(a)). Based on the list of insignificant activities submitted in a CAAPP application, the Agency or USEPA may find during the course of permitting that an activity should not qualify as insignificant. Such a finding might be based on the amount of emissions from an emission unit or applicable air

pollution control requirements. In such circumstances, the owner or operator of a source would be required to supplement the application to address the activity and allow the Agency to prepare a CAAPP permit which appropriately addresses such activity. During a field inspection, Agency personnel may also verify whether the activities listed in an application were properly identified as insignificant by the owner or operator of the CAAPP source.

This multi-layered approach to insignificant activities was developed to provide simplicity and certainty for CAAPP permitting generally, while still allowing flexibility on a case-by-case basis. It is intended to assure that the environmental goals of Title V of the Clean Air Act are achieved, while minimizing the procedural and administrative burden on CAAPP applicants and the Agency.

The first class of insignificant activities, the "nontraditional" activities, is the one that I find most interesting. In day to day practice, the current state air pollution control permit program has been focused on individual equipment and operations, using what I can only describe as administrative common sense. The Agency has not required permits for cafeterias where cooking may release smoke and volatile organic material or maintenance of buildings which may involve painting, blasting, or welding. For purposes of the CAAPP, which is Illinois' version of the federal Title V permit program, it is appropriate to better define the activities of routine interest at a stationary source. It is apparent that there are a variety of activities at stationary sources that will not fit into a CAAPP permit, at least on an individual basis, because of limited impact on the environment, transitory nature, uncertainty of emissions,

unpredictability of occurrence, or coincidental relationship to the source. To avoid any uncertainty in CAAPP permitting, the Agency is proposing to identify such activities as "insignificant".

In this respect, it is important to note that there may be requirements and obligations with respect to air pollution control that exist outside the CAAPP permit. For example, it is wholly inappropriate to address in a CAAPP permit individual asbestos removal activities, each use of architectural coating, each application of fertilizer to lawns, smoking by employees, or each job performed by refrigeration repair workers. The owner or operator of CAAPP sources will still be required to comply with control requirements for such activities, if such control requirements apply to the owner or operator of a source.

The Agency has also realized that even for equipment that is of interest for air pollution control, the Agency has used administrative common sense in implementing the State permit programs. The Agency has focused on stationary equipment and assemblages of components, termed "emission sources" under the existing State permit programs. The Agency also proposes to use the provisions for insignificant activities to formally continue this practice. The Agency is proposing to identify certain activities individually to be insignificant, e.g., an individual valve or pipeline flange in a chemical process or a particular engine being run on an engine test stand. In the absence of this clarification, these activities might inappropriately be treated as individual emission units. These activities, which will be referred to as emission points, are, however, to be addressed in the aggregate, as the group of components

The insignificant activities addressed in this subsection are required to t individually listed in a CAAPP application and generally contain eligibility criteria terms of emissions, capacity, size, materials being handled, and so forth. The listin of an activity in an application provides general notice to the Agency, USEPA, and th public that specific activities that are deemed insignificant are occurring at a source

i. Section 201.210(a)(1)

This subsection makes reference to the case-by-case process fo insignificant activities in proposed Section 201.211, which allows an emissio unit with up to 1.0 pound/hour emissions to be considered insignificant.

ii. Section 201.210(a)(2) and (a)(3)

These subsections establish the emission levels at and below which a unit's emission of regulated pollutants other than hazardous air pollutants, e.g. particulate matter and volatile organic material, may be considered insignificant These cut-offs are 0.1 pound/hour or less and 0.44 ton/year, in the absence of air pollution control equipment.

iii. Section 201.210(a)(4) through (a)(18)

These subsections identify specific activities, that is, categories of equipment, which are proposed to be insignificant and for which individual listing in an application would be required. This portion of the Agency's proposal is generally self-explanatory and one should refer to the proposed rule for the specific equipment that the Agency is proposing for this treatment.

b. Section 201.210(b)(1) through (b)(29)

The insignificant activities proposed in this subsection are both traditional and nontraditional activities that the Agency would propose to not have individually listed in a CAAPP application. Rather, the applicant would denote in its CAAPP application whether any of the listed activities are present at the source. The Agency intends to provide a space on the CAAPP application form for insignificant activities whereby the applicant can indicate whether one or more of these activities are present.

Many of these provisions are self explanatory, and one is again referred to the Agency's proposal. A discussion of selected provisions follows, for which additional explanation is provided.

i. Section 201.210(b)(9)

This subsection addresses housekeeping activities, but does not include the use of cleaning materials that contain organic solvent. This Section is intended to address both portable vacuum cleaning equipment and centrally located vacuum cleaning systems used to collect dust as part of housekeeping activity. As such, it would not extend to continuously operated aspiration systems to control dust emissions. This section has also been written to accommodate immediate cleanup of solids or liquids following a spill or accidental release. In certain situations, reporting requirements or liability may apply to such a cleanup, pursuant to provisions for emergency releases. However, it is not appropriate to address or delay the remedial cleanup activity by CAAPP permitting.

ii. Section 201.210(b)(10)

criteria is specified at 68°F, (0.1 psi, measured at 68°F) as solvent vapor pressure data may be more readily available for a temperature of 68°F.

vi. Section 201.210(b)(20)

This subsection addresses a variety of manually operated equipment used for buffing, polishing, carving, cutting, drilling, machining, routing, sanding, sawing, scarfing, surface grinding, or turning. This subsection is supported by a proposed definition of "manually operated equipment" in Section 211.3620. The term manually operated equipment does not extend to central dust collection systems serving more than one machine or tool. The emissions from such central dust collection systems will be affected by the number and type of manually operated equipment being served, and therefore, it is not appropriate to extend this category to include such systems.

vii. Section 201.210(b)(21)

This subsection addresses the use of consumer products where the product is used at a source in a manner similar to the use the general public would make of a product. This use of consumer products extends to hazardous substances used in the same manner as normal consumer use.

viii. Section 201.210(b)(23)

This subsection addresses firefighting and firefighting training activities; provided, however, as specifically stated in a note, that state open burning permits may be required for certain firefighting training activity pursuant to 35 Ill. Adm. Code Part 237.

Exhibit 7.

RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE

KEITH CREAGH
DIRECTOR

May 25, 2016

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Mr. Jason Roughton
RJ Industrial Recycling
5061 Energy Drive
Flint, MI 48505

Kotz Sangster Wysocki P.C
Mr. George F. Curran, III
400 Renaissance Center, Suite 3400
Detroit, MI 48243-1618

SRN: N7885, Genesee County

Dear Mr. Roughton and Mr. Curran:

VIOLATION NOTICE

On May 24, 2016, the Department of Environmental Quality (DEQ), Air Quality Division (AQD) conducted visible emission (VE) readings of your facility located at G5167 North Dort Highway, Flint. The purpose of this inspection was to determine compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); and Administrative Consent Order EPA number 5-15-113(a)-MI-02.

As a result of the evaluation on May 24, 2016, the following air pollution violations were identified:

Process Description	Rule/Permit Condition Violated	Comments
Torch cutting of scrap metal	Rule 301	Smoke from torch cutting operations exceeded 20% opacity
Torch cutting of scrap metal	Administrative Consent Order EPA 5-15-113(a)-MI-02, paragraph 23	Opacity exceedances show lack of or insufficient training of employees
Torch cutting of scrap metal	Administrative Consent Order EPA 5-15-113(a)-MI-02, Appendix A paragraph 8	Operators torching materials giving high emissions
Torch cutting of scrap metal	Administrative Consent Order EPA 5-15-113(a)-MI-02, Appendix A paragraph 10	SPARCS unit was not being used or was not operating, or was not effective
Torch cutting of scrap metal	Administrative Consent Order EPA 5-15-113(a)-MI-02, Appendix A paragraph 19	SPARCS unit was not being used or was not operating, or was not effective

During this inspection it was noted that your company's torch cutting processes were emitting opacity in excess of emissions allowed by Act 451, Rule 301.

Enclosed are copies of the instantaneous and six minute average readings taken on May 24, 2016, from 9:08 am to 9:53 am. It should be noted that this timeframe is not the only times in which opacity was witnessed on this date, but rather the times it was read and documented using Method 9 analysis.

In addition, opacity was observed on the dates of May 17, 18, and 19, 2016, by DEQ, AQD staff. Though Method 9 readings were not conducted during these days, it is the professional judgement of the AQD staff that the visible emissions observed were in excess of Rule 301.

The cited is enforceable per DEQ, AQD Rule 301 (R336.1301) and Administrative Consent Order EPA 5-15-113(a)-MI-02 paragraph 23, Appendix A paragraphs 8, 10, and 19 in the following manner:

Rule 301(1)(a) states: a person shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of a density greater than the most stringent of the following: (a) A 6-minute average of 20% opacity, except for 1 6-minute average per hour of not more than 27% opacity. During the visible emissions readings, the maximum six minute opacity reading was 51.0%.

Paragraph 23 of the consent order requires "a training program and shall require all of its employees who conduct torch cutting, in addition to the appropriate supervisors and managers, to complete training on all aspects of the best management practices for torch cutting as described in Appendix A". Based on my observations, the individuals conducting torch cutting operations are not properly trained, or they are ignoring the training content and the site manager is not enforcing the standards.

Appendix A paragraph 8 states: "RJ shall ensure that its employees are aware of what materials are likely to produce higher VEs when torch cut and shall develop protocols to manage VEs when cutting those materials." Based on my observations, awareness of materials that produce higher VEs was either ignored or unknown to the torch operator.

Appendix A paragraph 10 states: "RJ shall utilize the SPARCS units, which are designed to reduce opacity from torch-cutting operations." Observations of the torch cutting operations were made without the use of the SPARCS equipment.

Appendix A paragraph 19 states: "RJ shall conduct torch cutting in a SPARCS unit at any time when, due to the scraps metallurgical properties and size, emissions are expected to exceed the VE limit in R336.1301(1)(a) of the Michigan SIP. Observations of torch cutting operations were made without the use of SPARCS.

Please initiate actions necessary to correct the cited violations and submit a written response to this Violation Notice by June 15, 2016. The written response should include: the dates the violations occurred; an explanation of the causes and duration of the violations; whether the violations are ongoing; a summary of the actions that have been taken and are proposed to be taken to correct the violations and the dates by which these actions will take place; and what steps are being taken to prevent a reoccurrence.

If RJ Industrial Recycling believes the above observations or statements are inaccurate or do not constitute violations of the applicable legal requirements cited, please provide appropriate factual information to explain your position.

Thank you for your attention to resolving the violations cited above. If you have any questions regarding the violations or the actions necessary to bring this facility into compliance, please contact me at the telephone number listed below.

Sincerely,

Nathan Hude
Environmental Quality Analyst
Air Quality Division
517-284-6779

NNH:TG

Enclosures

cc/via e-mail: Ms. Sarah Marshall, EPA
Mr. Raymond Cullen, EPA
Ms. Lynn Fiedler, DEQ
Ms. Teresa Seidel, DEQ
Ms. Heidi Hollenbach, DEQ
Mr. Thomas Hess, DEQ
Mr. Brad Myott, DEQ

Exhibit 8.

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Unanticipated potential cancer risk near metal recycling facilities

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ABSTRACT

Metal recycling is an important growing industry. Prior to this study, area sources consisting of metal recycling facilities fell in a category of limited regulatory scrutiny because of assumed low levels of annual emissions. Initiating with community complaints of nuisance from smoke, dust and odor, the Houston Department of Health and Human Services (HDHHS) began a monitoring program outside metal recycler facilities and found metal particulates in outdoor ambient air at levels which could pose a carcinogenic human health risk. In a study of five similar metal recycler facilities which used a torch cutting process, air downwind and outside the facility was sampled for eight hours between 6 and 10 times each over 18 months using a mobile laboratory. Ten background locations were also sampled. Iron, manganese, copper, chromium, nickel, lead, cobalt, cadmium and mercury were detected downwind of the metal recyclers at frequencies ranging from 100% of the time for iron to 2% of the time for mercury. Of these metals, chromium, nickel, lead, cobalt, cadmium and mercury were not detected in any sample in the background. Two pairs of samples were analyzed for total chromium and hexavalent chromium to establish a ratio of the fraction of hexavalent chromium in total chromium. This fraction was used to estimate hexavalent chromium at all locations. The carcinogenic risk posed to a residential receptor from metal particulate matter concentrations in the ambient air attributed to the metal recyclers was estimated from each of the five facilities in an effort to rank the importance of this source and inform the need for further investigation. The total risk from these area sources ranged from an increased cancer risk of 1 in 1,000,000 to 6 in 10,000 using the 95th upper confidence limit of the mean of the carcinogenic metal particulate matter concentration, assuming the point of the exposure is the sample location for a residential receptor after accounting for wind direction and the number of shifts that could operate a year. Further study is warranted to better understand the metal air pollution levels in the community and if necessary, to evaluate the feasibility of emission controls and identify operational improvements and best management practices for this industry.
This research adds two new aspects to the literature: identification of types and magnitude of metal particulate matter air pollutants associated with a previously unrecognized area source, metal recyclers and their potential risk to health.

1. Introduction

The aim of this study was to investigate metal particulate matter concentrations at an area source concerning air pollution previously not considered significant and use carcinogenic risk assessment to rank the severity of the human health threat. The particular area source category we investigate, metal recyclers, was first recognized as a possible hazard by the residents of nearby neighborhoods. Communities in Houston, Texas, the fourth largest city in the United States, complained to the Houston Department of Health and Human Services (HDHHS) repeatedly between 2004 and 2012 regarding odor, smoke, and dust from metal recycler facilities in their neighborhood. Motivated by public health concerns, and not just by violation of any state or federal regulation, the City of Houston responded to the community complaints with initiation of air monitoring off-site of local metal recycler facilities. What the communities recognized as a smoke, dust and odor

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nuisance has ultimately been found to pose a potential health concern due to the chemical composition of the emissions.

Metal particulate matter emissions are generated from cutting metal to be recycled on an industrial scale. The term metal cutting encompasses a broad range of metal recycler destruction from shredding to torch cutting. Torch cutting is the destruction process of most concern because the process generates fine particulate matter air pollution. Evidence that short term exposure to particulate matter air pollution is associated with morbidity and mortality is increasingly found in the literature, especially with respect to fine particulate matter of aerodynamic diameter smaller than 2.5 μm (PM2.5) (Pope and Dockery, 2006). There is growing evidence that the chemical composition of particulate matter is another important consideration when studying the health impact (De Hartog et al., 2009; Franklin et al., 2008). Though not previously specifically studied, the particulate matter from metal recyclers is likely composed of metals often seen in surface coatings (e.g., arsenic, cadmium, chromium, mercury, lead and selenium), and the alloys themselves which are being recycled (e.g., iron, chromium, copper, cobalt, manganese and nickel), some of which are toxic.

Section 112 of the United States Clean Air Act addresses emissions of hazardous air pollutants (HAPs). This section divides stationary sources, or groups of stationary sources, into two categories: major sources and area sources. A major source is defined as a stationary source that either emits or has the potential to emit 10 tons per year (tpy) of a HAP or 25 tpy or more of a combination of HAPs. An area source is defined as any stationary source that is not a major source, thus emits less than 10 tpy of a single HAP and less than 25 tpy of a combination of HAPs. The metal recyclers in Houston analyzed in this study fall in the area source category. Metal HAP emissions, from certain types of area sources including metal recyclers are not required to be controlled, measured, inventoried or modeled, while other types of area sources are required to be controlled and measured. As a result there is large uncertainty in regulatory estimates of emissions from area sources generally, and especially from the area sources without effective control requirements, like metal recyclers.

2. Materials and methods

2.1. Facility selection

The U.S. Census Bureau statistics of U.S. Businesses (Census.gov) indicates that there are over 100 metal recycler facilities in Houston. We conducted particulate matter ambient air monitoring using a mobile ambient air monitoring laboratory for a collective total of 48 days at five of the medium sized metal recyclers in four different communities. While we did not measure the emissions, the concentrations in the ambient air reflect emissions from the facilities because continuous weather data (wind direction and speed) were recorded during the sampling period. Only days when air monitoring data were collected entirely downwind of the facility, according to weather monitoring and back trajectory analysis, were included in this analysis.

These metal recycler facilities are similar in size, processing an estimated 200 to 500 tons per day of steel and various other recyclable metals, use metal torch cutting, have similar regulatory authorizations and are located in mixed industrial-residential areas. Each metal torch cutting facility is authorized under Title 30 of the Texas Administrative Code (30 TAC) §106.265 Handheld and Manually Operated Equipment, which provides no limitations regarding management practices, distances to offsite receptors or emissions from the metal torch cutting operations, provided the total emissions do not exceed Title V Air permit threshold limits per (30 TAC) §106.4.

An often used rationale for inaction regarding smaller industrial type area emission sources is that the potential risk is mitigated because of an assumed lack of human receptors. This is not a valid assumption for this particular type of area source, especially in Houston where a lack of zoning restrictions results in residences and industry frequently being located in close proximity with each other, and in some cases, sharing a fence line. The metal recyclers studied are in populated communities with a diversity of ethnicity, income and education. Table 1 lists the community name, the metal recyclers in that community and a description of the community (FILES: Census, 2010 Summary File 1; FILES: 2006–2010 American Community Survey).

Within one mile of each of the facilities studied are numerous neighborhood features which serve as indicators that these area sources are not located in predominantly industrial areas (Table 2).

For control and comparison purposes, we also sampled at ten other locations across the city to assess background metal particulate matter concentrations. All locations where background sampling was conducted were upwind of any nearby metal recyclers during sampling. The ten comparison locations consisted of industrial facilities as well as parks and neighborhood centers. The locations of the known metal recyclers in Houston, the five facilities studied, and the comparison/control points are shown in Fig. 1. Filter blank samples were also collected for quality assurance. The number of blank samples equal 20% of the total samples collected.

2.2. Sampling and analysis

Total suspended particulate matter (TSP) samples were collected downwind from these facilities using high volume samplers operating at a flow rate of 85 l/m for a collective total of 48 days at locations 50 to 100 ft outside the facility fence. The high volume sample model, HiQ Hi-Vol Model #: CF-1002BRL-DGTL, was purchased from Hi-Q Environmental Products located in California. While future research will consider particulate matter broken down by size fraction, in this study, we restrict analysis to TSP because the City of Houston sampling and analysis capacity was more limited with other size fractions.

The sample durations lasted approximately 8 h per deployment. The location of the mobile lab outside of the facility was selected based on wind direction to ensure that the concentrations in the ambient air were downwind of the facility.

Each facility was sampled several times over a span of 18 months (6 to 13 times). Samples were collected on 47 mm binderless quartz fiber filters. The metals in the particulate matter samples were analyzed by inductively coupled plasma using the United States Environmental Protection Agency (EPA) method 6010 (EPA, 2007) at the City of Houston laboratory. The laboratory is accredited through the National Environmental Laboratory Accreditation Program for all the metals analyzed in this study.

In addition to the high volume samplers, HAZ-DUST EPAM-5000 samplers were used to collect TSP and PM10 data for hexavalent chromium (CrVI) speciation. The HAZ-DUST EPAM-5000 was purchased

Table 1
Characteristics of the communities in vicinity of metal recyclers studied.

Community	Metal recycler	Dominant ethnicity	Population density (per sq. mile)	Dominant age	Median household income	% less than high school degree
Washington Ave.	Facility 1	White	3979	25–34	$61,910	16
Magnolia Park/Harrisburg	Facility 2/Facility 3	Hispanic	4188	25–34	$28,257	57
South Park	Facility 4	African American	4545	34–54	$32,635	46
Sunnyside	Facility 5	African American	937	25–34	$48,694	10

Table 2
Neighborhood features within a mile from metal recycling facility.

	Parks/trails	Schools	Fire stations	Churches	Community Centers	Hospitals
Facility 1	5	9	1	7	2	3
Facility 2	3	16	1	11	1	–
Facility 3	5	9	2	10	1	–
Facility 4	–	8	1	–	–	–
Facility 5	1	4	–	16	1	–

from Environmental Devices Corporation. The unit uses an infra red detector to estimate particle concentrations μg/m^3, has a calibrated flow of 4.0 lpm and collects samples on a 47 mm filter for laboratory analysis. The HAZ-DUST EPAM-5000 was used because the flow rate is lower (4 lpm) than the high volume rate and the currently acceptable methodologies (National Institute for Occupational Safety and Health et al., 1985) all require a lower flow rate and smaller sample volume than the TSP method to prevent sample loss or conversion of CrVI. The samples for CrVI were prepared and analyzed by ion chromatography as referenced in OSHA ID 215 and our sample collection was consistent with the method (Occupational Safety and Health Administration, 1998).

3. Results

3.1. Ambient air metal particulate matter results

TSP samples were collected for 48 days at the metal recycler locations and 10 days at the comparison (background) locations. All TSP samples were analyzed for silver (Ag), cadmium (Cd), total chromium (Cr), copper (Cu), manganese (Mn), nickel (Ni), lead (Pb), zinc (Zn), iron (Fe), cobalt (Co) and mercury (Hg). At the five study locations, Ag was not detected and Hg was detected once at one location. Zn was detected in all samples including significant concentrations in the blank filter samples and at the ten comparison and control locations used for background; therefore, the Zn results are not considered accurate. Hg, Ag and Zn were eliminated from further assessment.

The number of sample days, arithmetic mean, standard deviation, percent of sample days with concentrations above the detection limit, the assumed distributional shape and 95th upper confidence limit of the mean based on the assumed distribution shape (Singh and Singh, 2003; Singh et al., 2006) are summarized for each metal by facility in Table 3. Calculations were performed in SAS and ProUCL statistical software (SAS, 2010; ProUCL, 2011).

The statistical assessment indicates that the most commonly detected metals across the five locations were Fe, Mn, Cu, and Cr, with an average detection rate of 100%, 98%, 96% and 92% respectively. In contrast, Cd was detected at only one location and in only 31% of the samples at that location and Co was detected at only two of the locations, in 14 and 75% of the samples at those locations (Table 3). The distributions of the Fe, Mn, Cu, and Cr across the five sites were found to be variable with the largest difference in relative range associated with Cr (Fig. 2 a,b,c,d).

In comparison, only three metals, Fe, Mn and Cu, were detected at the locations used to represent background (Table 4). The background concentrations of the detected metals were significantly lower than the concentrations at the metal recyclers (Table 3 and Fig. 2).

As expected, the time series of certain metal concentrations at the five study locations were found to be linearly correlated according to Pearson correlation coefficients. For example, Fe and Mn were linearly correlated at four of the five locations: facility 1 0.96, facility 2 0.92, facility 4 0.86 and facility 5 0.64. Each facility had at least two pairs of metals with statistically significant correlations greater than 0.80.

While Cr (total) was routinely collected with the other metals, as noted above, two CrVI samples were collected simultaneously with Cr total, one TSP and one PM10. The results of the simultaneous sampling were used to develop a ratio of total Cr that is CrVI, which could be used to estimate the CrVI fraction when only Cr total was measured. Note, EPA assumes 34% of the reported chromium is CrVI when other data are not available (EPA, 2010). Our results indicate the percentage of total Cr that is CrVI in ambient air downwind from metal recyclers to

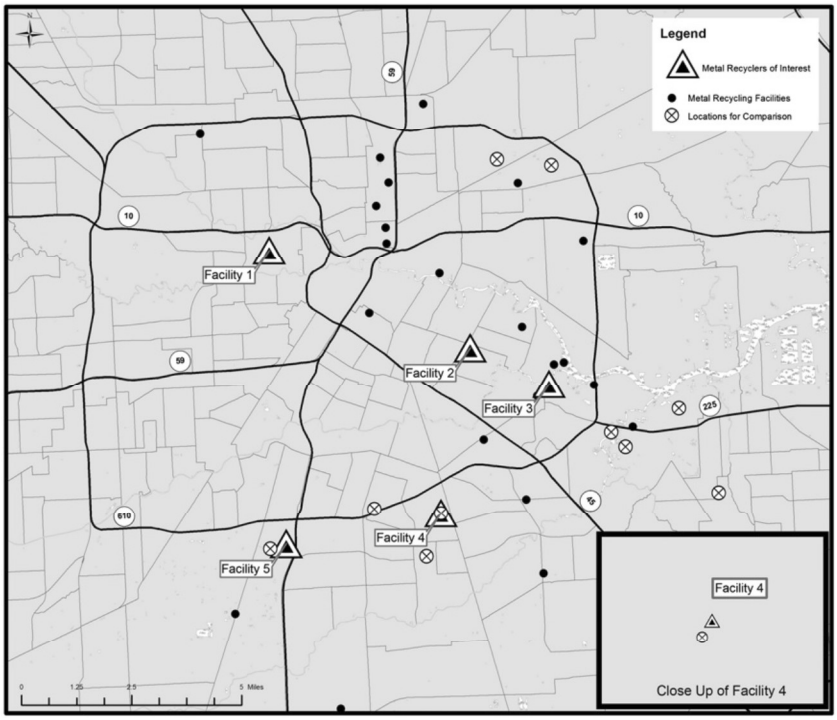

Fig. 1. Metal recycler facilities in Houston, facilities in study, and comparison/control locations.

Table 3
Descriptive statistics of metal concentrations.

Metal	Statistic	Facility 1	Facility 2	Facility 3	Facility 4	Facility 5	Background
		n = 10	n = 6	n = 7	n = 12	n = 13	n = 10
		μg/m^3					
Cd	Mean (SD)	NA	NA	NA	NA	0.026 (0.022)	NA
	% detected	0	0	0	0	31	0
	Distribution	NA	NA	NA	NA	None discernible	NA
	95th UCL	NA	NA	NA	NA	0.0532	NA
Co	Mean (SD)	NA	NA	0.016 (0.002)	0.048 (0.072)	NA	NA
	% detected	0	0	14	75	0	0
	Distribution	NA	NA	None discernible	None discernible	NA	NA
	95th UCL	NA	NA	0.0169	0.138	NA	NA
Cu	Mean (SD)	0.11 (0.08)	1.317 (0.718)	0.139 (0.057)	0.471 (0.523)	0.296 (0.186)	0.0341 (0.0386)
	% detected	90	100	100	92	100	71
	Distribution	Normal	Normal	Normal	Gamma	Normal	None discernible
	95th UCL	0.156	1.907	0.181	0.911	0.388	0.079
Cr	Mean (SD)	0.036 (0.015)	0.095 (0.109)	0.751 (0.665)	0.312 (0.28)	0.129 (0.121)	NA
	% detected	60	100	100	100	100	0
	Distribution	Normal	Gamma	Normal	Gamma	Gamma	NA
	95th UCL	0.044	0.288	1.239	0.532	0.208	NA
Fe	Mean (SD)	12.47 (9.45)	4.3 (1.748)	8.377 (5.64)	14.28 (8.857)	18.21 (16.94)	1.731 (1.419)
	% detected	100	100	100	100	100	100
	Distribution	Normal	Normal	Normal	Normal	Gamma	Gamma
	95th UCL	17.95	5.738	12.52	18.87	31.59	2.595
Pb	Mean (SD)	0.21 (0.282)	0.44 (0.313)	0.93 (0.04)	0.096 (0.05)	0.249 (0.242)	NA
	% detected	40	100	14	100	92	0
	Distribution	Gamma	Normal	None discernible	None discernible	Gamma	NA
	95th UCL	0.383	0.697	0.123	0.121	0.385	NA
Mn	Mean (SD)	0.147 (0.103)	0.096 (0.056)	0.21 (0.079)	0.24 (0.132)	0.22 (0.129)	0.0344 (0.0285)
	% detected	90	100	100	100	100	64
	Distribution	Normal	Normal	Normal	Normal	Gamma	Gamma
	95th UCL	0.206	0.142	0.269	0.309	0.313	0.049
Ni	Mean (SD)	0.064 (0.32)	0.149 (0.142)	0.423 (0.18)	0.766 (0.618)	0.157 (0.129)	NA
	% detected	30	50	100	100	85	0
	Distribution	None discernible	Gamma	Normal	Normal	Gamma	NA
	95th UCL	0.082	0.382	0.555	1.087	0.243	NA

SD, standard deviation. 95th UCL refers to the 95th upper confidence limit of the mean based on the distributional shape. If there was no discernible distribution, the 95th upper confidence limit of the mean for the t distribution was used.

be approximately 10% (0.042 μg/m^3/0.396 μg/m^3). This same percentage of total Cr that is CrVI found in the TSP sample was also found in the simultaneously collected PM10 sample.

3.2. Ambient air metal particulate matter risk

Of the metals detected in the ambient air downwind of the metal recyclers, Ni, Cd, CrVI, and Co are carcinogenic. None of these metals were detected in the ambient air at the background locations. In order to determine if the metal concentrations detected in the ambient air offsite of the metal recyclers were potentially posing an increased cancer risk above acceptable levels, the concentrations were first compared with screening level concentrations. The screening levels were calculated using EPA methodology for assessing inhalation human health risk (EPA, 2009), assuming a residential exposure, a risk of one in a million as the acceptable risk level, and toxicity values obtained from EPA's Integrated Risk Information System (IRIS) with the exception of cobalt (IRIS, 2012a,b). The toxicity value for cobalt is from the Provisional Peer Reviewed Toxicity Values for Superfund (EPA, 2003).

The residential carcinogenic screening level (SL) is calculated as follows:

$$SL = (TR \times AT)/(EF \times ED \times ET \times IUR)$$

TR	Target risk (1×10^{-6});
AT	Average time (70 years lifetime × 365 days/year × 24 h/day);
EF	Exposure frequency (350 days/year);
ED	Exposure duration (30 years);
ET	Exposure time (24 h/day);
IUR	Inhalation unit risk ($(\mu g/m^3)^{-1}$)

The metal concentrations measured 50 to 100 ft downwind of the site fence line represent the concentration detected in an 8 hour period. This concentration reflects emissions resulting directly from the industrial operations because the monitoring sites were selected based on current and forecasted wind direction data. In order to approximate an annual concentration, the 8 hour concentration was adjusted for the hours and days a facility operates in a year.

Facilities may operate continuously or fewer shifts a day (i.e., one, two or three 8 hour shifts a day). Most facilities are closed on Sundays. For a facility working three 8 hour shifts a day and closed on Sunday, a reasonable approximation of the annual potential exposure concentration would be the 95th upper confidence limit of the mean of the measured 8 hour concentration adjusted for zero emissions on Sunday (i.e., 8 hour concentrations multiplied by 6/7). If the facility worked less than three 8 hour shifts a day while operating, the concentration is adjusted down accordingly. For example, the annual concentration is derived as follows:

$$C_{Annual} = C(8\ h) \times (6/7) \times n/3$$

C_{Annual}	Annual concentration, $\mu g/m^3$
C_{8h}	95th upper confidence limit of measured 8 hour mean concentration, $\mu g/m^3$
n	Number of 8 hour shifts per day.