BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:	)	
AMENDMENTS TO 35 ILL. ADM. CODE PARTS 201, 202, AND 212	)	R23-018(A) (Rulemaking – Air)

NOTICE OF FILING

To: Attached Service List

PLEASE TAKE NOTICE that today I have electronically filed with the Office of the Clerk of the Illinois Pollution Control Board **PREFILED TESTIMONY OF PHILIP G. CRNKOVICH** and a **CERTIFICATE OF SERVICE,** which are attached and copies of which are herewith served upon you.

Dated: August 28, 2023

Respectfully submitted,

/s/ John M. Heyde
East Dubuque Nitrogen Fertilizers, LLC
By One of Its Attorneys

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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:	)	
AMENDMENTS TO 35 ILL. ADM. CODE PARTS 201, 202, AND 212	)	R23-018(A) (Rulemaking – Air)

PREFILED TESTIMONY OF PHILIP G. CRNKOVICH

I. INTRODUCTION

My name is Philip G. Crnkovich. I am currently the Environmental and Security Manager for East Dubuque Nitrogen Fertilizers, LLC ("EDNF"). I have held various positions during my tenure at EDNF since June 2010 that have included environmental, health, safety, security and quality assurance. My office is located at EDNF's facility in East Dubuque, Illinois (the "Facility").

I hold a Bachelor of Science degree in mechanical engineering from Marquette University and a Master of Business Administration degree from the University of Dayton. I am a registered professional engineer in the State of Ohio. I have worked in manufacturing industries for years, and I have worked at the Facility for over 13 years.

In my current role, I am responsible for the Facility's compliance with environmental regulations and permits. Of greatest relevance to this proceeding are the recently-repealed Board rules on startup, malfunction, and breakdowns (the "SSM Rules"), the Board's regulation on emission of nitrogen oxides ("NOx") and related opacity from new weak nitric acid manufacturing plants at 35 Ill. Adm. Code 217.381, and the Facility's current Clean Air Act

Permit Program ("CAAPP") permit. I am familiar with these regulations and permits. I am also familiar with the capabilities and operations of the Facility's two nitric acid production processes (the "Nitric Acid Processes") and the two selective catalytic reduction ("SCR") devices that control NOx and related opacity from the Nitric Acid Processes.

II. THE FACILITY AND THE NITRIC ACID PROCESSES

A. Overview of the Facility

Overall, the Facility produces nitrogenous fertilizer products that support agriculture and other industrial sectors. A significant proportion of the Facility's fertilizer product supports agriculture in Illinois, specifically. The Facility produces anhydrous ammonia using natural gas and nitrogen from the air. Further processes at the Facility – including the two Nitric Acid Processes – upgrade anhydrous ammonia to produce nitric acid, urea, ammonium nitrate (85 percent aqueous solution), and urea ammonium nitrate. Beverage grade liquid carbon dioxide, a byproduct of ammonia synthesis, is also sold commercially.

In addition to engaging various independent contractors, the Facility employs about 154 people and paid $27.3 million in Illinois wages in 2022 alone. The average annual wage is over $155,000, compared to the area median income of $87,500 per year. Since January 1, 2020, EDNF has pledged or provided more than $1.8 million in charitable contributions to the local community. Over the last three years, EDNF sold, on average, nitrogen products equivalent to 143 million pounds of nitrogen per year into Illinois, the equivalent of fertilizing 798,000 acres of corn. The seven counties surrounding the Facility planted an estimated 1.1 million acres of corn in 2022, with EDNF serving as a source for a significant amount of the nitrogen needs. The Facility sells the nitric acid it produces for multiple industrial uses.

B. The Nitric Acid Processes, Emissions, and Emission Control

To the best of my knowledge, EDNF operates the only nitric acid production processes in Illinois and, therefore, operates the only facility subject to Section 217.381. The Nitric Acid Processes are "weak nitric acid manufacturing processes," as that term is used in the current version of Section 217.381(a). Since they were built after 1972, they are "new" as that term is used in the current version of the rule.

The Nitric Acid Processes convert anhydrous ammonia to nitric acid in three steps. First, ammonia is oxidized over a platinum catalyst gauze to form nitric oxide and water. The nitric oxide is passed through a condenser and cooled. In the second step, the nitric oxide is oxidized further to produce nitrogen dioxide. Finally, in the third step, the nitrogen dioxide is absorbed in water to yield a solution that contains 57 to 65 percent nitric acid. The Nitric Acid Processes are continuous, and they continue in normal operation for as long as several months between one startup and the next shutdown.

One of the byproducts of a weak nitric acid manufacturing process is NOx emissions, which absent any control device, would be emitted to the atmosphere from the absorption tower, the final step in nitric acid production process. To control the NOx emissions and comply with Section 217.381, both of EDNF's Nitric Acid Processes use SCR systems.[1] An SCR converts NOx to diatomic nitrogen and water, in the presence of a catalyst. In addition to the catalyst, an SCR system also requires a reductant to be added to the flue gas to produce the desired reaction on the catalyst. EDNF's SCRs use ammonia as the reductant.

The chemical reaction inside the SCR occurs at an elevated temperature during normal operation. The hot flue gas heats the SCR as it passes through, keeping the SCR at the

[1] EDNF refers to the two Nitric Acid Processes as "NAP-1" and "NAP-2," respectively. Each process is equipped with a separate, dedicated SCR.

temperature needed for the reduction reaction. However, when the Nitric Acid Processes start up, a brief period of time of up to five hours is needed before the SCR reaches the minimum operating temperature. The ammonia cannot be introduced into the SCR until the device reaches a temperature of at least 350 degrees Fahrenheit. If ammonia were introduced into the SCR below this temperature, ammonium nitrate solids would be produced, presenting both a risk of damage to the SCR and a fire/explosion safety risk. As a result, there is a short period of time during startup of the Nitric Acid Processes in which NOx-containing hot flue gas flows through the SCR but ammonia is not yet introduced, so the SCR is not yet controlling the NOx emissions. Similarly, when a Nitric Acid Process is shut down, there is a short period of time of up to three hours when the SCR temperature has dropped below 350 degrees, and ammonia flow must be cut off. This causes, for a short duration, additional NOx emissions. During both of these startup and shutdown periods, the Nitric Acid Processes inevitably emit more NOx per pound of production than they do during normal operation. In contrast, during normal operation, the processes result in NOx emissions well below the limit in current Section 217.381(a)(1).

NOx from the Nitric Acid Processes, at sufficient concentrations, are visible emissions. They can be seen as a light yellow to brown plume of air (with the color depending on the NOx concentration), and they can be measured as opacity. The NOx constitutes the only visible emissions from the Nitric Acid Processes; particulate matter emissions do not cause opacity at the Nitric Acid Processes. As a result, opacity measurements are essentially just another measure of NOx. During normal operation, the processes result in opacity measurements that comply with the five percent limitation in current Section 217.381(a)(2) and, in fact, typically are zero. However, during startup and shutdown, the inability to introduce ammonia to the SCR and the

resulting higher concentrations of NOx can also result in visible emissions that can be measured as opacity.

III. SCR PERFORMANCE DURING STARTUP AND SHUTDOWN

A. Existing Rules Do Not Allow the Nitric Acid Processes to Shut Down or, Once Shut Down, to Start Again.

During periods of normal operation, the Nitric Acid Processes, with their current SCR controls, meet the NOx and opacity limitations in existing Section 217.381(a)(1) and (2). The SCRs reduce NOx by more than 98 percent during normal operation, providing excellent NOx control. In fact, NOx emissions are substantially less than three pounds per ton of acid produced during periods of normal operation. The Facility knows this because for years it has used continuous emissions monitoring systems ("CEMS") to measure its NOx emissions. At this low level, the Nitric Acid Processes also maintain visible emissions at or below 5 percent opacity during normal operation. But the same is not true during startup and shutdown; as a result, the existing Board rule at Section 217.381, following repeal of the SSM rules, does not allow the Nitric Acid Processes to shut down, nor if shut down, can EDNF re-start those processes without violating Section 217.381.

The Nitric Acid Processes cannot meet Section 217.381 during startup and shutdown because ammonia cannot be added to the SCRs unless the temperature of the SCRs is at least 350 degrees. NOx concentrations are elevated during startup and shutdown because of the lack of ammonia injection. In addition, acid production is *de minimis* during these periods, so short-term NOx emissions expressed in pounds of NOx per ton of production are higher than during normal operation. In addition, sufficient NOx is emitted during startup and shutdown that the NOx is visible; therefore, opacity is greater than 5 percent.

B. Reasonable Alternative Standards Would Allow Startup and Shutdown.

1. Alternative NOx Standard

Although the Nitric Acid Processes cannot meet the same NOx and opacity standards that existing Section 217.381 provides for normal operation, they can meet reasonable alternative standards. In particular, if the same calculation method and averaging period that the U.S. Environmental Protection Agency ("U.S. EPA") included in the most recent New Source Performance Standard ("NSPS") for weak nitric acid manufacturing processes were applied, the Nitric Acid Processes would meet the Section 217.381(a)(1) standard of 3.0 pounds of NOx per ton of acid produced. In fact, using this calculation method and averaging period, EDNF has proposed to amend this standard to cut the allowable emission rate in half, to 1.5 pounds of NOx per ton of acid produced. EDNF's proposed amendments to Section 217.381 paraphrase these U.S. EPA provisions to create the 30-operating-day averaging period (rolled daily), and EDNF proposes that this amended NOx standard apply at all times, including startup and shutdown.

The U.S. EPA calculation method appears in Title 40, Part 60, Subpart Ga of the Code of Federal Regulations. 40 C.F.R. § 60.73a(c)(3). Hourly NOx emission rate, in pounds of NOx per ton of acid produced, is calculated for each hour of process operation. For periods when there is "little or no acid production (e.g., startup or shutdown)," a facility will use the average hourly production rate determined from the previous 30 operating days of normal acid production. The 30-day averaging period is taken from 40 C.F.R. § 60.72a[2] ("as a 30-day emission rate calculated based on 30 consecutive operating days, the production being expressed as 100 percent nitric acid.").

[2] EDNF's Statement of Reasons inadvertently cited this to 40 C.F.R. § 60.73a, instead of 60.72a.

2. Alternative Opacity Standard

Because the only visible emissions from the Nitric Acid Processes are the nitrogen oxides themselves, opacity is higher than normal during startup and shutdown for the same reason that the NOx emissions are higher – the inability to inject ammonia into the SCRs at SCR temperatures below 350 degrees. As a result, the Facility cannot comply with the 5 percent opacity limitation in existing Section 217.381(a)(2) during startup and shutdown.[3] However, EDNF currently complies at all times with reasonable work practice standards that EDNF proposes to add to Section 217.381. These work practice standards require: (a) operating in a manner consistent with good air pollution control practices for minimizing emissions; (b) maintaining a log of startup and shutdown events; and (c) operating in accordance with written startup and shutdown procedures "that are specifically developed to minimize startup emissions, duration of individual starts, and frequency of startups." The work practice standards draw from concepts in the Facility's 2011 consent decree and current CAAPP permit. *See, e.g., United States v. Rentech Nitrogen, LLC, as successor to Rentech Energy Midwest Corp.,* No. 3:11-cv-50358 (N.D. Ill. Feb. 10, 2012) (attached to rulemaking petition as **Exhibit 5**) at 10; Illinois EPA, *Clean Air Act Permit Program (CAAPP) Permit,* issued to EDNF, No. 96010003 (revision issued Dec. 15, 2020) (attached as **Exhibit 1**) at 169.

Opacity is further limited in the consent decree and CAAPP permit by defining "Startup" and "Shutdown" in a manner that limits their duration. "Startup" is defined to be no longer than five hours after ammonia is first fed to the process. "Shutdown" is defined to be no longer than

[3] Nor can the Facility comply during startup and shutdown with the general opacity limitation in 35 Ill. Adm. Code 212.123. Since this limitation applies to "the emission of smoke or other particulate matter," it arguably is not applicable to the Nitric Acid Processes. However, to promote clarity of the rules, EDNF proposes that the amendment to Section 217.381 specifically state that the visible emissions limits in Section 217.381 are, for weak nitric acid manufacturing processes, "in lieu" of the limitations in Section 212.123.

three hours from the cessation of ammonia feed to cessation of compressed air feed to the process. EDNF proposes that these work practice standards be added to Section 217.381 to be an alternative opacity standard for startup and shutdown. (Consent Decree at 9, 43; CAAPP Permit (Exhibit 1) at 185.)

C. EDNF Is Not Aware of Alternative Control Strategies that Would Allow Startup and Shutdown Without an Alternative Standard

SCRs are considered the "gold standard" for NOx control. However, as discussed above, an SCR requires a reductant – in this case, ammonia – in order to perform its function of converting NOx to diatomic nitrogen and water. Ammonia cannot be introduced into the SCR until the device reaches a temperature of at least 350 degrees Fahrenheit. If EDNF *did* introduce ammonia to the SCR below this temperature, ammonium nitrate solids would be produced, presenting both a risk of damage to the SCR and a fire/explosion safety risk. As a result, there is no way to optimize the SCRs at the Facility to allow compliance with existing Section 217.381(a)(1) and (2) during startup and shutdown.

It is far from clear that EDNF could successfully identify a way to pre-heat the Facility's SCRs to improve NOx control during startup and shutdown. A modification of the Facility to bring a source of heat to the SCRs may not be possible because of the physical configuration of the Facility. In addition, large amounts of heat would be necessary, as the SCR inlets have very large duct sizes: 30- and 24-inch diameter ducts in NAP-1 and NAP-2, respectively. These large inlet ducts are necessary to minimize pressure drop given the volume of gas that flows into the SCRs. It is not clear that the Facility would have enough steam available for this purpose, even if a modification could be made to bring available steam to the Nitric Acid Process SCRs.

While another theoretical method of pre-heating the SCRs might be construction of dedicated boilers, even a natural gas boiler would have its own startup and shutdown issues,

following repeal of the SSM Rules, with the existing Board regulations for carbon monoxide. Moreover, construction of a new boiler would increase carbon dioxide emissions. This sort of environmental trade-off is not advisable given that the Facility has operated in compliance with Board regulations that included the SSM Rules for many years, and the Facility is not located in an area that requires any NOx or ozone reduction.

IV. NSPS APPROACHES TO STARTUP AND SHUTDOWN FOR WEAK NITRIC ACID PROCESSES

U.S. EPA has issued two NSPSs for weak nitric acid production processes. The original NSPS, issued in 1971, is Subpart G of Title 40, Part 60 of the Code of Regulations. In 2012, U.S. EPA promulgated a new NSPS, which is Subpart Ga. Subpart Ga applies to any nitric acid production unit that commences construction or is modified after October 14, 2011. 40 C.F.R. § 60.70a(b). Both of the Nitric Acid Processes at the Facility were constructed before that date. The older process, designated "NAP-1," was built in 1978, and "NAP-2" was built in the late 1990s. Subpart G applies to both Nitric Acid Processes.

A. Subpart G

The emission standards in Subpart G are similar to the standards in existing Section 217.381. NOx emissions are limited to 3.0 pounds per ton of acid produced. 40 C.F.R. § 60.72(a)(1). Opacity is limited to 10 percent, § 60.72(a)(2), instead of the 5 percent limitation in Section 217.381(a)(2). As in existing Section 217.381, Subpart G does not refer directly to startup and shutdown. However, the general provisions of the NSPS program clarify that it is not a violation of the NSPS to operate above these limits during periods of startup, shutdown, or malfunction. *See* 40 C.F.R. § 60.8(c) ("emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction [shall not] be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.")

Thus, the U.S. EPA program in Subpart G closely mirrors the Board regulations before the repeal of the SSM Rules.

B. Subpart Ga

As described above, Subpart Ga explicitly considers startup and shutdown. The regulation sets a NOx limitation that is applicable "at all times" and is based on a 30-operating-day emission rate. 40 C.F.R. § 60.72a. U.S. EPA concluded that "due to the relatively short duration of startup and shutdown events (generally a few hours per month) compared to normal steady-state operations, we conclude that a 30-day emission rate calculated based on 30 operating days" will be sufficient to allow facilities to meet the NOx standard "at all times, including periods of startup and shutdown." 77 Fed. Reg. 48,433, 48,435 (Aug. 14, 2012) (attached to rulemaking petition as **Exhibit 3**). U.S. EPA also removed the opacity limitation from the NSPS in promulgating Subpart Ga, acknowledging that the Subpart G standard for opacity existed only "as an additional method of demonstrating compliance with the NOx emission limit", 76 Fed. Reg. 63,878, 63,880 (Oct. 14, 2011) (attached to rulemaking petition as **Exhibit 4**), but was no longer needed for that purpose. *Id.* at 63,885.

V. THE FACILITY IS IN AN ATTAINMENT AREA, AND ILLINOIS EPA ALREADY INCLUDES THE FACILITY'S CURRENT OPERATING DATA IN ITS ANALYSES OF ATTAINMENT AND AIR QUALITY.

As discussed, to the best of my knowledge, EDNF operates the only weak nitric acid manufacturing processes in Illinois. The Facility is located in an attainment area, is not in an environmental justice area, and Illinois EPA already includes operating data from the Facility in its analyses of ambient air quality standard attainment and any other air quality analyses. As a result, there is no environmental need for additional NOx reduction from any weak nitric acid plant in Illinois.

EDNF's Facility is located in Jo Daviess County, about five miles outside of East Dubuque, Illinois, about 6.5 miles west of Galena, Illinois, and about one mile south of U.S. Highway 20 on a private road. The Facility is located in an area of low population density, and it is not in an identified environmental justice area, as defined by Illinois EPA's "EJ Start" mapping tool.[4] In addition, the Statement of Basis for the most recent renewal of the Facility's CAAPP permit states that Illinois EPA had not identified the Facility's location as a potential concern for environmental justice consideration. Illinois EPA, *Statement of Basis for the Draft CAAPP Permit for East Dubuque Nitrogen Fertilizers, LLC* (Nov. 28, 2016) at 12 (attached to rulemaking petition as **Exhibit 6**). The Facility is located in an area designated attainment or unclassifiable for all criteria air pollutants. 40 C.F.R. § 81.314.

The Facility, for years, has used NOx CEMS to monitor and record emissions continuously. Accordingly, NOx from startup and shutdown of the Nitric Acid Processes is included in the data routinely reported to Illinois EPA, and the agency has had the information it needs to account for those emissions in any evaluation or modeling of NOx or ozone levels in Illinois.

VI. CONCLUSION

EDNF's proposal is necessary to allow nitric acid manufacturing plants to continue operating in compliance with Board regulations; without adoption of this proposal, plants such as the Facility are permitted to operate but are not allowed to shut down, and if they do shut down, they are not allowed to start up again. EDNF's proposal would correct this situation in a narrowly-crafted manner that is based on concepts that U.S. EPA has accepted previously. In

[4] Illinois EPA EJ Start, available at https://illinois-epa.maps.arcgis.com/apps/webappviewer/index.html?id=f154845da68a4a3f837cd3b880b0233c (last accessed Aug. 28, 2023).

addition, the proposal cuts the average allowable NOx emissions for weak nitric acid plants, so it is more stringent than existing Illinois regulations and, therefore, would strengthen, not weaken, Illinois' system of environmental protection.

Thank you for the opportunity to testify. I will be happy to answer any questions.

Dated: August 28, 2023

Respectfully submitted,

/s/ John M. Heyde
East Dubuque Nitrogen Fertilizers, LLC
By One of Its Attorneys

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John M. Heyde
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Exhibit 1

Bureau of Air Permit Section

File Organization Cover Sheet

Source Name:	East Dubuque Nitrogen Fertilizers LLC	
ID No.:	085809AAA	
Application No.:	96010003	
Category:	03K Air Permit - Final	
Item Date:	12/15/2020	
Keyword:	Choose an item.	*
Comment:		*
Part:	Choose an item. of Choose an item.	*

* If applicable

Attention:

East Dubuque Nitrogen Fertilizers, LLC
Attn: Philip G. Crnkovich
16675 US Highway 20 West
East Dubuque, IL 61025-8605

State of Illinois

CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT

[Title I and Title V Permit]

Source:

East Dubuque Nitrogen Fertilizers, LLC
16675 US Highway 20 West
East Dubuque, IL 61025-8605

I.D. No.: 085809AAA
Permit No.: 96010003

Permitting Authority:

Illinois Environmental Protection Agency
Bureau of Air, Permit Section
217/785-1705

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 · (217) 782-3397
JB PRITZKER, GOVERNOR JOHN J. KIM, DIRECTOR

CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT

[Title I and Title V Permit]

Type of Application:	Administrative Amendment (AA)
Purpose of Application:	Revise Existing CAAPP Permit to reflect a change in the permitted emissions for fee purposes
ID No.:	085809AAA
Permit No.:	96010003
Statement of Basis No.:	96010003-1705
Date Application Received:	January 22, 2008
Date Issued:	July 11, 2017
Date Revision Received:	November 30, 2020
Date Revision Issued:	December 15, 2020
Expiration Date:	July 11, 2022
Renewal Submittal Date:	9 Months Prior to July 11, 2022
Source Name:	East Dubuque Nitrogen Fertilizers, LLC
Address:	16675 US Highway 20 West
City:	East Dubuque
County:	Jo Daviess
ZIP Code:	61025-8605

This permit is hereby granted to the above-designated source authorizing operation in accordance with this CAAPP permit, pursuant to the above referenced application. This source is subject to the conditions contained herein. If a conflict exists between this document and previous versions of the CAAPP permit, this document supersedes those terms and conditions of the permit for which the conflict exists. The previous permit issued July 11, 2017 is incorporated herein by reference. For further information on the source see Section 1 and for further discussion on the effectiveness of this permit see Condition 2.3(g).

If you have any questions concerning this permit, please contact Geoffrey Blood at 217/785-1705.

William D Marr

William D. Marr
Manager, Permit Section
Bureau of Air

WDM:MTR:GJB:tan

cc: IEPA, Permit Section
IEPA, FOS, Region 2

Table of Contents

Table of Contents

Section 1 - Source Information

1. Addresses

Source

East Dubuque Nitrogen Fertilizers, LLC
16675 US Highway 20 West
East Dubuque, IL 61025-8605

Owner

East Dubuque Nitrogen Fertilizers, LLC
16675 US Highway 20 West
East Dubuque, IL 61025-8605

Operator

East Dubuque Nitrogen Fertilizers, LLC
16675 US Highway 20 West
East Dubuque, IL 61025-8605

Permittee

The Owner and Operator of the source as identified in this table.

2. Contacts

Certified Officials

The source shall submit an Administrative Permit Amendment for any change in the Certified Officials, pursuant to Section 39.5(13) of the Act.

	Name	*Title*
Responsible Official	Marc M. Gilbertson	Vice President & Facility General Manager
Delegated Authority	No other individuals have been authorized by IEPA	None

Other Contacts

	Name	*Phone No.*	*Email*
Source Contact	Philip G. Crnkovich	(815) 747-1317	pcrnkovich@CVREnergy.com
Technical Contact	Philip G. Crnkovich	(815) 747-1317	pcrnkovich@CVREnergy.com
Correspondence	Philip G. Crnkovich	(815) 747-1317	pcrnkovich@CVREnergy.com
Billing	Philip G. Crnkovich	(815) 747-1317	pcrnkovich@CVREnergy.com

3. Single Source

The source identified in Condition 1.1 above shall be defined to include the following additional source:

I.D. No.	*Permit No.*	*Single Source Name and Address*
N/A	N/A	N/A

Section 2 - General Permit Requirements

1. Prohibitions

a. It shall be unlawful for any person to violate any terms or conditions of this permit issued under Section 39.5 of the Act, to operate the CAAPP source except in compliance with this permit issued by the IEPA under Section 39.5 of the Act or to violate any other applicable requirements. All terms and conditions of this permit issued under Section 39.5 of the Act are enforceable by USEPA and citizens under the Clean Air Act, except those, if any, that are specifically designated as not being federally enforceable in this permit pursuant to Section 39.5(7)(m) of the Act. [Section 39.5(6)(a) of the Act]

b. After the applicable CAAPP permit or renewal application submittal date, as specified in Section 39.5(5) of the Act, the source shall not operate this CAAPP source without a CAAPP permit unless the complete CAAPP permit or renewal application for such source has been timely submitted to the IEPA. [Section 39.5(6)(b) of the Act]

c. No Owner or Operator of the CAAPP source shall cause or threaten or allow the continued operation of an emission source during malfunction or breakdown of the emission source or related air pollution control equipment if such operation would cause a violation of the standards or limitations applicable to the source, unless this CAAPP permit granted to the source provides for such operation consistent with the Act and applicable Illinois Pollution Control Board regulations. [Section 39.5(6)(c) of the Act]

d. Pursuant to Section 39.5(7)(g) of the Act, emissions from the source are not allowed to exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act or the regulations promulgated thereunder, consistent with Section 39.5(17) of the Act and applicable requirements, if any.

2. Emergency Provisions

Pursuant to Section 39.5(7)(k) of the Act, the Owner or Operator of the CAAPP source may provide an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations under this CAAPP permit if the following conditions are met through properly signed, contemporaneous operating logs, or other relevant evidence:

a. i. An emergency occurred and the source can identify the cause(s) of the emergency.

ii. The source was at the time being properly operated.

iii. The source submitted notice of the emergency to the IEPA within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

iv. During the period of the emergency the source took all reasonable steps to minimize levels of emissions that exceeded the emission limitations, standards, or requirements in this permit.

b. For purposes of Section 39.5(7)(k) of the Act, "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, such as an act of God, that requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operation error.

c. In any enforcement proceeding, the source seeking to establish the occurrence of an emergency has the burden of proof. This provision is in addition to any emergency or upset provision contained in any applicable requirement. This provision does not relieve the source of any reporting obligations under existing federal or state laws or regulations.

3. General Provisions

a. Duty to Comply

The source must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the CAA and the Act and is grounds for any or all of the following: enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. [Section 39.5(7)(o)(i) of the Act]

b. Need to Halt or Reduce Activity is not a Defense

It shall not be a defense for the source in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. [Section 39.5(7)(o)(ii) of the Act]

c. Duty to Maintain Equipment

The source shall maintain all equipment covered under this permit in such a manner that the performance or operation of such equipment shall not cause a violation of applicable requirements. [Section 39.5(7)(a) of the Act]

d. Disposal Operations

The source shall be operated in such a manner that the disposal of air contaminants collected by the equipment operations, or activities shall not cause a violation of the Act or regulations promulgated there under. [Section 39.5(7)(a) of the Act]

e. Duty to Pay Fees

i. The source must pay fees to the IEPA consistent with the fee schedule approved pursuant to Section 39.5(18) of the Act and submit any information relevant thereto. [Section 39.5(7)(o)(vi) of the Act]

ii. The IEPA shall assess annual fees based on the allowable emissions of all regulated air pollutants, except for those regulated air pollutants excluded in Section 39.5(18)(f) of the Act and insignificant activities in Section 6, at the source during the term of this permit. The amount of such fee shall be based on the information supplied by the applicant in its complete CAAPP permit application. [Section 39.5(18)(a)(ii)(A) of the Act]

iii. The check should be payable to "Treasurer, State of Illinois" and sent to: Fiscal Services Section, Illinois EPA, P.O. Box 19276, Springfield, IL, 62794-9276. Include on the check: ID #, Permit #, and "CAAPP Operating Permit Fees". [Section 39.5(18)(e) of the Act]

f. Obligation to Allow IEPA Surveillance

Pursuant to Sections 4(a), 39.5(7)(a), and 39.5(7)(p)(ii) of the Act, inspection and entry requirements that necessitate that, upon presentation of credentials and other documents as may be required by law and in accordance with constitutional limitations, the source shall allow the IEPA, or an authorized representative to perform the following:

i. Enter upon the source's premises where the emission unit(s) are located or emissions-related activity is conducted, or where records must be kept under the conditions of this permit.

ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit.

iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

iv. Sample or monitor any substances or parameters at any location at reasonable times:

A. As authorized by the Clean Air Act or the Act, at reasonable times, for the purposes of assuring compliance with this CAAPP permit or applicable requirements; or

B. As otherwise authorized by the Act.

v. Enter and utilize any photographic, recording, testing, monitoring, or other equipment for the purposes of preserving, testing, monitoring, or recording any activity, discharge or emission at the source authorized by this permit.

g. Effect of Permit

i. Pursuant to Section 39.5(7)(j)(iv) of the Act, nothing in this CAAPP permit shall alter or affect the following:

A. The provisions of Section 303 (emergency powers) of the CAA, including USEPA's authority under that Section.

B. The liability of the Owner or Operator of the source for any violation of applicable requirements prior to or at the time of permit issuance.

C. The applicable requirements of the acid rain program consistent with Section 408(a) of the Clean Air Act.

D. The ability of USEPA to obtain information from the source pursuant to Section 114 (inspections, monitoring, and entry) of the Clean Air Act.

ii. Notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, pursuant to Sections 39.5(7)(j) and (p) of the Act, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements. [35 IAC 201.122 and Section 39.5(7)(a) of the Act]

h. Severability Clause

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, other portions of this permit may continue to be in effect. Should any portion of this permit be determined to be illegal or unenforceable, the validity of the other provisions shall not be affected and the rights and obligations of the source shall be construed and enforced as if this permit did not contain the particular provisions held to be invalid and the applicable requirements underlying these provisions shall remain in force. [Section 39.5(7)(i) of the Act]

4. Testing

a. Tests conducted to measure composition of materials, efficiency of pollution control devices, emissions from process or control equipment, or other parameters shall be

conducted using standard test methods if applicable test methods are not specified by the applicable regulations or otherwise identified in the conditions of this permit. Documentation of the test date, conditions, methodologies, calculations, and test results shall be retained pursuant to the recordkeeping procedures of this permit. Reports of any tests conducted as required by this permit or as the result of a request by the IEPA shall be submitted as specified in Condition 7.1 of this permit. [35 IAC Part 201 Subpart J and Section 39.5(7)(a) of the Act]

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

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

ii. Testing by the IEPA: The IEPA shall have the right to conduct such tests at any time at its own expense. Upon request of the IEPA, the Owner or Operator of the emission source or air pollution control equipment shall provide, without charge to the IEPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary.

5. Recordkeeping

a. Control Equipment Maintenance Records

Pursuant to Section 39.5(7)(b) of the Act, a maintenance record shall be kept on the premises for each item of air pollution control equipment. At a minimum, this record shall show the dates maintenance was performed and the nature of preventative maintenance activities.

b. Retention of Records

i. Records of all monitoring data and support information shall be retained for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [Section 39.5(7)(e)(ii) of the Act]

ii. Pursuant to Section 39.5(7)(a) of the Act, other records required by this permit including any logs, plans, procedures, or instructions required to be kept by this permit shall be retained for a period of at least 5 years from the date of entry unless a different period is specified by a particular permit provision.

c. Availability of Records

i. Pursuant to Sections 39.5(7)(a), (b), (e)(ii), (o)(v), and (p)(ii)(A) and (B) of the Act, the Permittee shall retrieve and provide paper copies, or as electronic media, any records retained in an electronic format (e.g., computer) in response to an IEPA or USEPA request during the course of a source inspection.

ii. Pursuant to Section 39.5(7)(a) of the Act, upon written request by the IEPA for copies of records or reports required to be kept by this permit, the Permittee shall promptly submit a copy of such material to the IEPA. For this purpose, material shall be submitted to the IEPA within 30 days unless additional time is provided by the IEPA or the Permittee believes that the volume and nature of requested material would make this overly burdensome, in which case, the Permittee shall respond within 30 days with the explanation and a schedule for submittal of the requested material. (See also Condition 2.9(d))

6. Certification

a. Compliance Certification

i. Pursuant to Section 39.5(7)(p)(v)(C) of the Act, the source shall submit annual compliance certifications by May 1 unless a different date is specified by an applicable requirement or by a particular permit condition. The annual compliance certifications shall include the following:

A. The identification of each term or condition of this permit that is the basis of the certification.

B. The compliance status.

C. Whether compliance was continuous or intermittent.

D. The method(s) used for determining the compliance status of the source, both currently and over the reporting period consistent with the conditions of this permit.

ii. Pursuant to Section 39.5(7)(p)(v)(D) of the Act, all compliance certifications shall be submitted to the IEPA Compliance Section. Address is included in Attachment 3.

iii. Pursuant to Section 39.5(7)(p)(i) of the Act, all compliance reports required to be submitted shall include a certification in accordance with Condition 2.6(b).

b. Certification by a Responsible Official

Any document (including reports) required to be submitted by this permit shall contain a certification by the responsible official of the source that meets the requirements of Section 39.5(5) of the Act and applicable regulations. [Section 39.5(7)(p)(i) of the Act]. An example Certification by a Responsible Official is included in Attachment 4 of this permit.

7. Permit Shield

a. Pursuant to Section 39.5(7)(j) of the Act, except as provided in Condition 2.7(b) below, the source has requested and has been granted a permit shield. This permit shield provides that compliance with the conditions of this permit shall be deemed compliance with applicable requirements which were applicable as of the date the proposed permit for this source was issued, provided that either the applicable requirements are specifically identified within this permit, or the IEPA, in acting on this permit application, has determined that other requirements specifically identified are not applicable to this source and this determination (or a concise summary thereof) is included in this permit. This permit shield does not extend to applicable requirements which are promulgated after May 23, 2017, unless this permit has been modified to reflect such new requirements.

b. Pursuant to Section 39.5(7)(j) of the Act, this permit and the terms and conditions herein do not affect the Permittee's past and/or continuing obligation with respect to statutory or regulatory requirements governing major source construction or modification

under Title I of the CAA. Further, neither the issuance of this permit nor any of the terms or conditions of the permit shall alter or affect the liability of the Permittee for any violation of applicable requirements prior to or at the time of permit issuance.

c. Pursuant to Section 39.5(7)(a) of the Act, the issuance of this permit by the IEPA does not and shall not be construed as barring, diminishing, adjudicating or in any way affecting any currently pending or future legal, administrative or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the IEPA or the USEPA may have against the applicant including, but not limited to, any enforcement action authorized pursuant to the provision of applicable federal and state law.

8. Title I Conditions

Pursuant to Sections 39(a), 39(f), and 39.5(7)(a) of the Act, as generally identified below, this CAAPP permit may contain certain conditions that relate to requirements arising from the construction or modification of emission units at this source. These requirements derive from permitting programs authorized under Title I of the Clean Air Act (CAA) and regulations thereunder, and Title X of the Illinois Environmental Protection Act (Act) and regulations implementing the same. Such requirements, including the New Source Review programs for both major (i.e., PSD and nonattainment areas) and minor sources, are implemented by the IEPA.

a. This permit may contain conditions that reflect requirements originally established in construction permits previously issued for this source. These conditions include requirements from preconstruction permits issued pursuant to regulations approved or promulgated by USEPA under Title I of the CAA, as well as requirements contained within construction permits issued pursuant to state law authority under Title X of the Act. Accordingly, all such conditions incorporated into this CAAPP permit by virtue of being either an "applicable Clean Air Act requirement" or an "applicable requirement" in accordance with Section 39.5 of the Act. These conditions are identifiable herein by a designation to their origin of authority.

b. This permit may contain conditions that reflect necessary revisions to requirements established for this source in preconstruction permits previously issued under the authority of Title I of the CAA. These conditions are specifically designated herein as "TIR."

   i. Revisions to original Title I permit conditions are incorporated into this permit through the combined legal authority of Title I of the CAA and Title X of the Act. Public participation requirements and appeal rights shall be governed by Section 39.5 of the Act.

   ii. Revised Title I permit conditions shall remain in effect through this CAAPP permit, and are therefore enforceable under the same, so long as such conditions do not expire as a result of a failure to timely submit a complete renewal application or are not removed at the applicant's request.

c. This permit may contain conditions that reflect new requirements for this source that would ordinarily derive from a preconstruction permit established under the authority of Title I of the CAA. These conditions are specifically designated herein as "TIN."

   i. The incorporation of new Title I requirements into this CAAPP permit is authorized through the combined legal authority of Title I of the CAA and Title X of the Act. Public participation requirements and appeal rights shall be governed by Section 39.5 of the Act.

   ii. Any Title I conditions that are newly incorporated shall remain in effect through this CAAPP permit, and are therefore enforceable under the same, so long as such conditions do not expire as a result of a failure to timely submit a complete renewal application or are not removed at the applicant's request.

9. Reopening and Revising Permit

a. **Permit Actions**

This permit may be modified, revoked, reopened and reissued, or terminated for cause in accordance with applicable provisions of Section 39.5 of the Act. The filing of a request by the source for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [Section 39.5(7)(o)(iii) of the Act]

b. **Reopening and Revision**

Pursuant to Section 39.5(15)(a) of the Act, this permit must be reopened and revised if any of the following occur:

i. Additional requirements become applicable to the equipment covered by this permit and three or more years remain before expiration of this permit;

ii. Additional requirements become applicable to the source for acid deposition under the acid rain program;

iii. The IEPA or USEPA determines that this permit contains a material mistake or that an inaccurate statement was made in establishing the emission standards or limitations, or other terms or conditions of this permit; or

iv. The IEPA or USEPA determines that this permit must be revised or revoked to ensure compliance with the applicable requirements.

c. **Inaccurate Application**

Pursuant to Sections 39.5(5)(e) and (i) of the Act, the IEPA has issued this permit based upon the information submitted by the source in the permit application referenced on page 1 of this permit. Any misinformation, false statement or misrepresentation in the application shall be grounds for revocation or reopening of this CAAPP under Section 39.5(15) of the Act.

d. **Duty to Provide Information**

The source shall furnish to the IEPA, within a reasonable time specified by the IEPA any information that the IEPA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the source shall also furnish to the IEPA copies of records required to be kept by this permit. [Section 39.5(7)(o)(v) of the Act]

10. Emissions Trading Programs

No permit revision shall be required for increases in emissions allowed under any USEPA approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for elsewhere in this permit and that are authorized by the applicable requirement. [Section 39.5(7)(o)(vii) of the Act]

11. Permit Renewal

a. Upon the expiration of this permit, if the source is operated, it shall be deemed to be operating without a permit unless a timely and complete CAAPP application has been submitted for renewal of this permit. However, if a timely and complete application to renew this CAAPP permit has been submitted, the terms and all conditions of the most recent issued CAAPP permit will remain in effect until the issuance of a renewal permit. [Sections 39.5(5)(l) and (o) of the Act]

b. For purposes of permit renewal, a timely application is one that is submitted no less than 9 months prior to the date of permit expiration. [Section 39.5(5)(n) of the Act]

12. Permanent Shutdown

Pursuant to Section 39.5(7)(a) of the Act, this permit only covers emission units and control equipment while physically present at the source location(s). Unless this permit specifically provides for equipment relocation, this permit is void for the operation or activity of any item of equipment on the date it is removed from the permitted location(s) or permanently shut down. This permit expires if all equipment is removed from the permitted location(s), notwithstanding the expiration date specified on this permit.

13. Startup, Shutdown, and Malfunction

Pursuant to Section 39.5(7)(a) of the Act, in the event of an action to enforce the terms or conditions of this permit, this permit does not prohibit a Permittee from invoking any affirmative defense that is provided by the applicable law or rule.

Section 3 - Source Requirements

1. Applicable Requirements

Pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act, the Permittee shall comply with the following applicable requirements. These requirements are applicable to all emission units (including insignificant activities unless specified otherwise in this Section) at the source.

a. Fugitive Particulate Matter

i. Pursuant to 35 IAC 212.301 and 35 IAC 212.314, 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 source unless the wind speed is greater than 25 mph.

ii. Compliance Method (Fugitive Particulate Matter)

Upon request by the IEPA, the Permittee shall conduct observations at the property line of the source for visible emissions of fugitive particular matter from the source to address compliance with 35 IAC 212.301. For this purpose, daily observations shall be conducted for a week for particular area(s) of concern at the source, as specified in the request, observations shall begin either within one day or five business days of receipt of a written request from the IEPA, depending, respectively, upon whether observations will be conducted by employees of the Permittee or a third-party observer hired by the Permittee to conduct observations on its behalf. The Permittee shall keep records for these observations, including identity of the observer, the date and time of observations, the location(s) from which observations were made, and duration of any fugitive particulate matter emissions event(s).

b. Visible Emissions (Opacity) Requirements

i. Pursuant to 35 IAC 212.123(a), the Permittee shall not cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit at the plant, except as allowed by 35 IAC 212.123(b) and 212.124.

ii. Compliance Method (Opacity Requirements)

Monitoring

A. Monitoring for individual units is addressed in Sections 4.1.2(a), 4.2.2(a), 4.4.2(a), 4.5.2(a), 4.6.2(a), 4.7.2(a), and 4.9.2(a).

Recordkeeping

B. Monitoring for individual units is addressed in Sections 4.1.2(a), 4.2.2(a), 4.4.2(a), 4.5.2(a), 4.6.2(a), 4.7.2(a), and 4.9.2(a).

c. Ozone Depleting Substances

Pursuant to 40 CFR 82.150(b), the Permittee shall comply with the standards for recycling and emissions reduction of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

i. Pursuant to 40 CFR 82.156, persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices.

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

iii. Pursuant to 40 CFR 82.161, persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program.

iv. Pursuant to 40 CFR 82 Subpart B, any person performing service on a motor vehicle for consideration when this service involves the refrigerant in the motor vehicle air conditioner shall comply with 40 CFR 82 Subpart B, Servicing of Motor Vehicle Air Conditioners.

v. Pursuant to 40 CFR 82.166, all persons shall comply with the reporting and recordkeeping requirements of 40 CFR 82.166.

d. Asbestos Demolition and Renovation

i. Asbestos Fees. Pursuant to Section 9.13(a) of the Act, for any site for which the Owner or Operator must file an original 10-day notice of intent to renovate or demolish pursuant to Condition 3.1(c)(ii) below and 40 CFR 61.145(b), the owner or operator shall pay to the IEPA with the filing of each 10-day notice a fee of $150.

ii. Pursuant to 40 CFR 61 Subpart M, Standard of Asbestos, prior to any demolition or renovation at this facility, the Permittee shall fulfill notification requirements of 40 CFR 61.145(b).

iii. Pursuant to 40 CFR 61.145(c), during demolition or renovation, the Permittee shall comply with the procedures for asbestos emission control established by 40 CFR 61.145(c).

e. Future Emission Standards

Pursuant to Section 39.5(15)(a) of the Act, this source shall comply with any new or revised applicable future standards of 40 CFR 60, 61, 62, or 63; or 35 IAC Subtitle B after the date issued of this permit. The Permittee shall, in accordance with the applicable regulation(s), comply with the applicable requirements by the date(s) specified and shall certify compliance with the applicable requirements of such regulation(s) as part of the annual compliance certification, as required by Condition 2.6(a). This permit may also have to be revised or reopened to address such new regulations in accordance with Condition 2.9.

2. Applicable Plans and Programs

Pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act, the Permittee shall comply with the following applicable requirements. These requirements are applicable to all emission units (including insignificant activities unless specified otherwise in this Section) at the source.

a. Fugitive PM Operating Program

Should this source become subject to 35 IAC 212.302, the Permittee shall prepare and operate under a Fugitive PM Operating Program consistent with 35 IAC 212.310 and submitted to the IEPA for its review. The Fugitive PM Operating Program shall be designed to significantly reduce fugitive particulate matter emissions, pursuant to 35 IAC 212.309(a). Any future Fugitive PM Operating Program made by the Permittee during the permit term is automatically incorporated by reference provided the Fugitive PM Operating Program is not expressly disapproved, in writing, by the IEPA within 30 days of receipt of the Fugitive PM Operating Program. In the event that the IEPA notifies the Permittee of a deficiency with any Fugitive PM Operating Program, the Permittee shall be

required to revise and resubmit the Fugitive PM Operating Program within 30 days of receipt of notification to address the deficiency pursuant to Section 39.5(7)(a) of the Act.

b. **PM_{10} Contingency Measure Plan**

Should this source become subject to 35 IAC 212.700, then the Permittee shall prepare and operate under a PM_{10} Contingency Measure Plan reflecting the PM_{10} emission reductions as set forth in 35 IAC 212.701 and 212.703. The Permittee shall, within 90 days after the date this source becomes subject to 35 IAC 212.700, submit a request to modify this CAAPP permit in order to include a new, appropriate PM_{10} Contingency Measure Plan.

c. **Episode Action Plan**

i. Pursuant to 35 IAC 244.141, the Permittee shall have on file with the IEPA an Episode Action Plan for reducing the levels of emissions during yellow alerts, red alerts, and emergencies, consistent with safe operating procedures. The Episode Action Plan shall contain the information specified in 35 IAC 244.144.

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

iii. Pursuant to 35 IAC 244.143(d), if an operational change occurs at the source which invalidates the Episode Action Plan, a revised Episode Action Plan shall be submitted to the IEPA for review within 30 days of the change and is automatically incorporated by reference provided the revision is not expressly disapproved, in writing, by the IEPA within 30 days of receipt of the revision. In the event that the IEPA notifies the Permittee of a deficiency with any revision to the Episode Action Plan, the Permittee shall be required to revise and resubmit the Episode Action Plan within 30 days of receipt of notification to address the deficiency pursuant to Section 39.5(7)(a) of the Act.

iv. The Episode Action Plan, as submitted by the Permittee on April 18, 2016, is incorporated herein by reference. The document constitutes the formal Episode Action Plan required by 35 IAC 244.142, addressing the actions that will be implemented to reduce SO2, PM10, NO2, CO and VOM emissions from various emissions units in the event of a yellow alert, red alert or emergency issued under 35 IAC 244.161 through 244.165.

v. Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall keep a copy of the Episode Action Plan, any amendments or revisions to the Episode Action Plan (as required by Condition 3.2(c)), and the Permittee shall also keep a record of activities completed according to the Episode Action Plan.

d. **Risk Management Plan (RMP)**

i. Pursuant to 40 CFR 68.215(a), the Permittee shall have a Risk Management Plan registered with the USEPA that includes information required by 40 CFR 68.150.

ii. The Permittee shall keep a copy of the Risk Management Plan and shall update the Risk Management Plan with the USEPA as required by 40 CFR 68.190.

3. Title I Requirements

As of the date of issuance of this permit, there are no source-wide Title I requirements that need to be included in this Condition.

4. Synthetic Minor Limits

As of the date of issuance of this permit, there are no source-wide synthetic minor limits that need to be included in this Condition.

5. Reporting Requirements

The Permittee shall submit the following information pursuant to Section 39.5(7)(f) of the Act. Addresses are included in Attachment 3.

a. Prompt Reporting

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

I. Requirements in Conditions 3.1(a)(i), 3.1(b)(i), 3.1(c), and 3.1(d).

II. Requirements in Conditions 3.2(a), 3.2(b), 3.2(c), and 3.2(d).

B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).

ii. The Permittee shall notify the IEPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Report required by Condition 3.5(b).

iii. The deviation reports shall contain at a minimum the following information:

A. Date and time of the deviation.

B. Emission unit(s) and/or operation involved.

C. The duration of the event.

D. Probable cause of the deviation.

E. Corrective actions or preventative measures taken.

iv. All deviation reports required in this Permit shall be identified, summarized, and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).

b. Semiannual Reporting

i. Pursuant to Section 39.5(7)(f)(i) of the Act, the Permittee shall submit a Semi-Annual Monitoring Report to the Illinois EPA, Air Compliance Section, summarizing required monitoring and identifying all instances of deviation from the permit, every six months as follows, unless more frequent reporting is required elsewhere in this Permit.

Monitoring Period	Report Due Date
January through June	July 31
July through December	January 31

ii. The Semiannual Monitoring Report must be certified by a Responsible Official consistent with Condition 2.6(b).

Note: Required monitoring includes all applicable monitoring, testing, recordkeeping, and reporting requirements. This may include monitoring

requirements not addressed within the Compliance Method Sections of this Permit.

c. **Annual Emissions Reporting**

Pursuant to 35 IAC Part 254, the Source shall submit an Annual Emission Report to the Air Quality Planning Section, due by May 1 of the year following the calendar year in which the emissions took place. All records and calculations upon which the verified and reported data are based must be retained by the source.

Section 4 - Emission Unit Requirements

4.1 Ammonia Plant - Ammonia Synthesizing Operations

1. Emission Units and Operations

Emission Units	*Pollutants Being Regulated*	*Original Construction Date*	*Modification/ Reconstruction Date*	*Air Pollution Control Devices or Measures*	*Monitoring Devices*
SG-1: Sulfur Guard	VOM, HAPS, SO_2, H_2S	7/1965	6/2016	None	None
R-1: Primary Reformer (Process Gas)	NO_x, SO_2, VOM, PM/PM_{10}/$PM_{2.5}$, CO	1965	6/2016	The MR-51 Flare Tip may operate to voluntarily control certain process gas streams during process upsets, as well as to control process gas during startup and shutdown.	None
R-2: Secondary Reformer	NO_x, SO_2, VOM, PM/PM_{10}/$PM_{2.5}$, CO	1965	N/A		None
R-3: High Temperature Shift Converter	NO_x, SO_2, VOM, PM/PM_{10}/$PM_{2.5}$, CO	1965	N/A		None
R-4: Low Temperature Shift Converter	NO_x, SO_2, VOM, PM/PM_{10}/$PM_{2.5}$, CO	1965	N/A		None
R-5: Methanator	CO	1965	N/A		None
T-1: Carbon Dioxide Absorber	CO	1965	N/A		None
DC-20: Clark Suction Drum	NO_x, SO_2, VOM, PM/PM_{10}/$PM_{2.5}$, CO	1965	N/A		None
MR-51 Flare Pilot	NO_x, SO_2, VOM, PM/PM_{10}/$PM_{2.5}$, CO	1994	N/A	None	None
T-2: Hot Potassium Absorbent Regenerator	VOM	1/1965	6/2016	None	None
MR-25: Ammonia Safety Flare* (Replacement)	NO_x, SO_2, VOM, PM/PM_{10}/$PM_{2.5}$, CO	2013	N/A	None	None
MR-25 Flare Pilot (Replacement)	NO_x, SO_2, VOM, PM/PM_{10}/$PM_{2.5}$, CO	2013	N/A	None	None

* The MR-25 ammonia safety flare controls ammonia emissions from the ammonia distribution system, including three refrigerated ammonia storage tanks. These tanks are considered insignificant activities and are included in Section 6.2.

2. Applicable Requirements

For the emission units in Condition 4.1.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act.

a. i. **Opacity Requirements**

A. The Ammonia Plant- Ammonia Synthesizing Operations units SG-1, MR-51 Flare, and MR-25 Ammonia Safety Flare are subject to the opacity requirements outlined in Condition 3.1(b)(i).

ii. Compliance Method (Opacity Requirements)

Monitoring

A. Pursuant to Sections 39.5(7)(b), (c), and (d) of the Act, the Permittee shall demonstrate compliance with the visible emission provisions of Condition 3.1(b)(i), through periodic visible emissions observations as follows:

I. The Permittee shall conduct visible emissions observations of Unit SG-1 when operating in gas desulfurization mode according to Conditions 4.1.2(a)(ii)(A)(III) through 4.1.2(a)(ii)(A)(VIII) during each startup and shutdown (if not used as fuel) during daylight hours.

II. The Permittee shall conduct visible emissions observations of the MR-51 Flare Tip at least once per period during which the flare has operated for 24 hours consecutively. The observations shall be performed according to Conditions 4.1.2(a)(ii)(A)(III) through 4.1.2(a)(ii)(A)(VIII).

III. The Permittee shall use USEPA RM 9 with 1 test run.

IV. In lieu of RM 9, the Permittee may demonstrate compliance using USEPA RM 22, with an observation period of at least 6 minutes. A determination of no visible emissions is assumed to be equivalent to 0% opacity. If visible emissions are detected using RM 22, follow-up RM 9 monitoring must be performed within 24 hours in order to quantify the percentage of opacity from the affected emission unit.

V. As per RM 9, opacity monitoring shall be conducted by a certified opacity observer. Determination of opacity and/or compliance verification via RM 9 shall overrule a determination made via RM 22.

VI. Monitoring by a third party is not required unless requested in writing by the IEPA and/or USEPA.

VII. If an exceedance of the limit in Condition 3.1(b)(i) is indicated, the Permittee shall take corrective action within 48 hours of such observation or indicate a deviation within the monitoring record. Corrective action may include, but is not limited to, maintenance and repair, and/or adjustment of operating parameters of the emission unit. If corrective action was taken, the Permittee shall perform a follow-up verification of compliance by monitoring for visible emissions within 48 hours of the initial observation.

VIII. A deviation shall be recorded in the monitoring record:

1. If RM 22 is used to verify compliance with Condition 3.1(b)(i) and visible emissions are observed for more than a total of 3 minutes during the 6 minute observation period and the Permittee does not complete a RM 9 within 24 hours to quantify the percentage of opacity from the affected emission unit;

2. If RM 22 is used to verify compliance with Condition 3.1(b)(i) and visible emissions are observed for more than a total of 3 minutes during the 6 minute observation period and the follow-up RM9 indicates the opacity of the emission unit exceeds 30%;

3. If RM 9 is used to verify compliance with Condition 3.1(b)(i) a deviation shall be indicated in the monitoring record if the affected emission unit's opacity exceeds 30%; or

4. If an exceedance is observed and corrective action cannot be made within 48 hours.

Recordkeeping

B. Pursuant to Sections 39.5(7)(b), (d) and (e) of the Act, the Permittee shall collect and maintain the following records of the visible emissions observations:

I. Copies of all field data sheets as per RM 9 and/or 22 which includes but is not limited to the following:

1. Date and time the observations were performed;

2. Name(s) of observing personnel and their affiliation;

3. The total elapsed time for each observation, i.e., the observation period, pursuant to the method used;

4. Identification of the equipment which was observed; and

5. The findings of the observation including the presence of any visible emissions or the percentage of opacity.

II. Operational status of each affected emission unit.

III. If applicable, a description of any corrective action taken including if the corrective action took place within 48 hours of the initial observation that showed an exceedance.

b. i. Particulate Matter (PM) Requirements

A. Pursuant to 35 IAC 212.322(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission units at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (see Condition 7.2(b)).

B. Pursuant to 35 IAC 212.321(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see Condition 7.2(a)).

C. Pursuant to Construction Permit #94030110, emissions and operation of the MR-51 flare for control of process gas shall not exceed the following limits. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total). [T1]

PM Emissions	
(Lbs/Hr)	(Tons/Yr)
31.5	4.0

D. Pursuant to Construction Permit #94030110, Emissions of PM from the MR-51 Pilots shall not exceed 0.25 pound/hour and 1.1 tons/year. [T1]

ii. Compliance Method (PM Requirements)

Monitoring

A. Pursuant to Section 39.5(7)(d) of the Act, The Permittee shall calculate PM emissions from the MR-51 Flare and MR-51 Flare Pilots using the following emission factors and equation:

Activity/ Emission Unit	Pollutant	Emission Factor	Emission Factor Source
MR-51 Flare Tip	PM/PM_{10}	7.45 Lb/10^6 Ft^3 Natural Gas	AP-42, Table 1.4-2
MR-51 Pilot	PM/PM_{10}	7.45 Lb/10^6 Ft^3 Natural Gas	AP-42, Table 1.4-2

Monthly Emissions (tons) = Emission Factor (Lb/10^6 Ft) x monthly natural gas usage (10^6 Ft^3) / 2000 lbs/ton.

B. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall monitor the hours of operation of the MR-51 Pilot in terms of hours per month.

C. Pursuant to Section 39.5(7)(e) of the Act, during periods in which the flare MR-51 is operational, the Permittee shall monitor the volume of processes gas flowing through SG-1 into the process and venting to the MR-51 flare in units of SCF of natural gas at 60°F.

Recordkeeping

D. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall maintain records of the monthly and running 12-month PM emissions from the MR-51 Flare and MR-51 Flare Pilot with supporting calculations.

E. Pursuant to Sections 39.5(7)(d) and (e) of the Act, the Permittee shall maintain records of the monthly natural gas usage of the MR-51 Flare Pilot in terms of 10^6 Ft^3 by use of the following formula:

$$\textit{Natural Gas Usage}\left(\frac{10^6 Ft^3}{month}\right) = \frac{\textit{Monthly Operation of unit (hours)} \times \textit{Rated Capacity of unit}\left(\frac{10^6 BTU}{hr}\right)}{\frac{1020\ BTU}{SCF\ of\ natural\ gas}}$$

F. Pursuant to Sections 39.5(7)(d) and (e) of the Act, the Permittee shall retain documentation of the rated capacity of the MR-51 Flare pilot and MR-51 Flare Tip on site.

G. Pursuant to Sections 39.5(7)(d) and (e) of the Act, the Permittee shall maintain records of the dates and times during which the MR-51 Flare Tip is operational and the volume of processes gas flowing through SG-1 into the process and venting to the MR-51 flare in units of SCF of natural gas at 60°F.

H. Pursuant to Sections 39.5(7)(b), (d), and (e) of the Act, to demonstrate compliance with Condition 4.1.2(b)(i)(A) or (B) for the process emission units in Condition 4.1.1 the Permittee shall maintain the following records:

I. A file with calculations of the maximum allowable PM emission rate(s) specified in 35 IAC 212.321(c) or 212.322(c), based on the maximum process weight rate(s), and the corresponding potential to emit PM of each source.

II. Actual emission rate(s) of PM (tons/hour), with supporting documentation and calculations.

c. i. **Sulfur Dioxide (SO_2) Requirements**

A. Pursuant to Construction Permit #94030110, Emissions of SO_2 from the MR-51 Pilots shall not exceed 0.25 pound/hour and 1.1 tons/year. [T1]

ii. Compliance Method (SO_2 Requirements)

Monitoring

A. Pursuant to Section 39.5(7)(d) of the Act, the Permittee shall calculate SO_2 emissions from the MR-51 Flare Pilot using the following emission factor and equation:

Activity/ Emission Unit	Pollutant	Emission Factor	Emission Factor Source
Pilot	SO_2	0.588 Lb/10^6 Ft^3 Natural Gas	AP-42, Table 1.4-2

MR-51 Pilot: Monthly Emissions (tons) = Emission Factor (Lb/10^6 Ft) x monthly natural gas usage (10^6 Ft^3) / 2000 lbs/ton.

B. Pursuant to Section 39.5(7)(d) of the Act, the Permittee shall calculate annual SO_2 emissions from the MR-51 Flare Pilot on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12-month total).

C. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall monitor the hours of operation of the MR-51 Pilot in terms of hours per month.

Recordkeeping

D. Pursuant to Sections 39.5(7)(d) and (e) of the Act, the Permittee shall maintain records of the monthly natural gas usage of the MR-51 Flare Pilot in terms of 10^6 Ft^3 by use of the following formula:

$$Natural\ Gas\ Usage\ \left(\frac{10^6 Ft^3}{month}\right) = \frac{Monthly\ Operation\ of\ unit\ (hours) \times Rated\ Capacity\ of\ unit\ \left(\frac{10^6 BTU}{hr}\right)}{\frac{1020\ BTU}{SCF\ of\ natural\ gas}}$$

E. Pursuant to Sections 39.5(7)(d) and (e) of the Act, the Permittee shall retain documentation of the rated capacity of the MR-51 Flare pilot on site.

d. i. **Volatile Organic Material (VOM) Requirements**

A. Pursuant to 35 IAC 215.301, no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 215.302 and the following exemption: if no odor nuisance exists the limitation of 35 IAC 215 Subpart G shall apply to photochemically reactive material.

B. Pursuant to 35 IAC 215.302, emissions in excess of those permitted by Condition 4.1.2(d)(i)(A) are allowable if such emissions are controlled by flame, thermal or catalytic incineration so as either to reduce such emissions to 10 ppm equivalent methane (molecular weight 16) or less, or to convert 85 percent of the hydrocarbons to carbon dioxide and water.

C. Pursuant to Construction Permit #94030110, emissions of VOM from the MR-51 Pilots shall not exceed 0.25 pound/hour and 1.1 tons/year. [T1]

ii. Compliance Method (VOM Requirements)

Monitoring

A. Pursuant to Section 39.5(7)(d) of the Act, Compliance with the emission limit of 4.1.2(d)(i)(A) for the emission unit SG-1 shall be demonstrated through the recordkeeping requirement of 4.1.2(d)(ii)(G).

B. Pursuant to Section 39.5(7)(d) of the Act, to demonstrate compliance with Condition 4.1.2(d)(i)(A) ammonia production shall not exceed 55.7 tons/hour when the facility is producing ammonia. The Permittee shall monitor ammonia production using the ammonia production meters.

C. Pursuant to Section 39.5(7)(d) of the Act, to demonstrate compliance with 4.1.2(d)(i)(C) the Permittee shall calculate VOM emissions from the MR-51 Pilot using the following emission factor and equation:

Activity/ Emission Unit	Pollutant	Emission Factor	Emission Factor Source
MR-51 Flare Pilot	VOM	5.39 Lb/10^6 Ft Natural Gas	AP-42, Table 1.4-2

Monthly Emissions (tons) = Emission Factor (Lb/10^6 Ft) x monthly natural gas usage (10^6 Ft^3) / 2000 lbs/ton.

D. Pursuant to Section 39.5(7)(d) of the Act, compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

E. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall monitor the hours of operation of the MR-51 Pilot in terms of hours per month.

Recordkeeping

F. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall maintain records of the quantity of ammonia produced when the facility is producing ammonia and the VOM emission factor for unit T-2.

G. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall maintain records of the calculations demonstrating that the potential to emit does not exceed the VOM limitation of Condition 4.1.2(d)(i)(A). The records shall include the maximum natural gas throughput per hour in units of SCF at 60°F, the VOM emission factor for the Sulfur Guard, and a description of the origin of the VOM emission factor.

H. Pursuant to Sections 39.5(7)(d) and (e) of the Act, the Permittee shall maintain records of the monthly natural gas usage of the MR-51 Flare Pilot in terms of 10^6 Ft^3 by use of the following formula:

$$\textit{Natural Gas Usage}\left(\frac{10^6 Ft^3}{month}\right) = \frac{\textit{Monthly Operation of unit (hours)} \times \textit{Rated Capacity of unit}\left(\frac{10^6 BTU}{hr}\right)}{\frac{1020\ BTU}{SCF\ of\ natural\ gas}}$$

I. Pursuant to Sections 39.5(7)(d) and (e) of the Act, the Permittee shall retain documentation of the rated capacity of the MR-51 Flare pilot on site.

e. i. **Carbon Monoxide Requirements (CO)**

A. Pursuant to Construction Permit #94030110, emissions and operation of the MR-51 flare tip for control of process gas shall not exceed the following limits. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total). [T1]

CO Emissions	
(Lbs/Hr)	(Tons/Yr)
237.6	29.7

B. Pursuant to Construction Permit #94030110, emissions of CO from the MR-51 Pilots shall not exceed 0.25 pound/hour and 1.1 tons/year. [T1]

ii. Compliance Method (CO Requirements)

Monitoring

A. Pursuant to Section 39.5(7)(d) of the Act, the Permittee shall calculate CO emissions from the MR-51 Flare Tip and MR-51 Flare Pilot using the following emission factors and calculations:

Activity/ Emission Unit	Pollutant	Emission Factor	Emission Factor Source
MR-51 Flare Tip	CO	0.31 Lb/ MMBTU	AP-42, Table 13.5-2
Pilot	CO	82.35 Lb/10^6 Ft^3 Natural Gas	AP-42, Table 1.4-2

Monthly Emissions of MR-51 Pilot (tons) = Emission Factor (Lb/10^6 Ft) x monthly natural gas usage (10^6 Ft^3) / 2000 lbs/ton.

Monthly Emissions Flare Tip (tons) = Emission Factor (Lb/MMBTU) x monthly heat input (MMBTU) / 2000 lbs/ton.

B. Pursuant to Section 39.5(7)(d) of the Act, compliance with the annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

C. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall monitor the hours of operation of the MR-51 Pilot in terms of hours per month.

D. Pursuant to Section 39.5(7)(e) of the Act, during periods in which the flare MR-51 tip is operational, the Permittee shall monitor the volume of processes gas flowing through SG-1 into the process and venting to the MR-51 flare in units of SCF of natural gas at 60°F, and the Permittee shall convert the quantity of natural gas per month to mmBTU per month by multiplying by 0.001020 mmBTU/SCF.

E. Pursuant to Section 39.5(7)(d) of the Act, the Permittee shall comply with the visible emissions limitations and monitoring required by conditions 4.1.2(a)(i)(A) and 4.1.2(a)(ii)(A)(II)-(VIII) and 4.1.2(a)(ii)(B).

F. Pursuant to Section 39.5(7)(d) of the Act, compliance with the CO limit when the flare is lit shall be determined by the presence of a flare pilot flame which shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

Recordkeeping

G. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall maintain records of the monthly and running 12-month CO emissions from the MR-51 Flare Tip and MR-51 Flare Pilot with supporting calculations.

H. Pursuant to Sections 39.5(7)(d) and (e) of the Act, the Permittee shall maintain records of the monthly natural gas usage of the MR-51 Flare Pilot in terms of 10^6 Ft^3 by use of the following formula:

$$\textit{Natural Gas Usage}\left(\frac{10^6 Ft^3}{month}\right) = \frac{\textit{Monthly Operation of unit (hours)} \times \textit{Rated Capacity of unit}\left(\frac{10^6 BTU}{hr}\right)}{\frac{1020\ BTU}{SCF\ of\ natural\ gas}}$$

I. Pursuant to Sections 39.5(7)(d) and (e) of the Act, the Permittee shall maintain records of the dates and times during which the MR-51 Flare Tip is operational and the volume of processes gas flowing through SG-1 into the process and venting to the MR-51 flare in units of SCF of natural gas at 60°F and total heat input to the flare tip during MR-51 flare tip operation.

f. i. **Nitrogen Oxide (NO_x) Requirements**

A. Pursuant to Construction Permit #94030110, emissions and operation of the MR-51 flare for control of process gas shall not exceed the following limits. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total). [T1]

NO_x Emissions	
(Lbs/Hr)	(Tons/Yr)
43.7	5.5

B. Pursuant to Construction Permit #94030110, emissions of NO_x from the MR-51 Pilots shall not exceed 0.25 pound/hour and 1.1 tons/year. [T1]

C. Pursuant to Section 39.5(7)(a) of the Act, Emissions from the ammonia safety flare shall not exceed the following limits: [T1]

NO_x Emissions	
(Tons/Month)	(Tons/Yr)
25.9	38.8

ii. Compliance Method (NO_x Requirements)

Monitoring

A. Pursuant to Section 39.5(7)(a) of the Act, the limits of Condition 4.1.2(f)(i)(C) are based on the operating limits in Condition 4.1.2(g)(i)(D) and the maximum emissions for each operating scenario. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total). [T1]

B. Pursuant to Section 39.5(7)(d) of the Act, the Permittee shall calculate NOx emissions from the MR-51 Flare, MR-51 Flare Pilot, and the MR-25 Ammonia Safety Flare using the following emission factors and calculations:

Activity/ Emission Unit	Pollutant	Emission Factor	Emission Factor Source
MR-51 Flare	NO_x	0.068 Lb/MMBTU	AP-42, Table 13.5-1
Pilot	NO_x	98 Lb/10^6 Ft^3 Natural Gas	AP-42, Table 1.4-2
Ammonia Safety Flare	NO_x	2.71 Lb/ Lb NH_3	Material Balance

Monthly Emissions for MR-51 Pilot (tons) = Emission Factor (Lb NO_x /10^6 Ft) x monthly natural gas usage (10^6 Ft^3) / 2000 lbs/ton.

Monthly Emissions Flare (tons) = Emission Factor (Lb/MMBTU) x monthly heat input (MMBTU) / 2000 lbs/ton.

Monthly Emissions for Ammonia Safety Flare (tons) = Emission Factor (Lb NO_x/ Lb NH_3) x monthly ammonia flared (lbs) / 2000 lbs/ton.

C. Pursuant to Section 39.5(7)(d) of the Act, compliance with annual limits of shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

D. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall monitor the hours of operation of the MR-51 Pilot in terms of hours per month.

E. Pursuant to Section 39.5(7)(e) of the Act, during periods in which the flare MR-51 is operational, the Permittee shall monitor the volume of processes gas flowing through SG-1 into the process and venting to the MR-51 flare in units of SCF of natural gas at 60°F, and the Permittee shall convert the quantity of natural gas per month to mmBTU per month by multiplying by 0.001020 mmBTU/SCF.

F. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall monitor the pounds of ammonia vented to the Ammonia Safety Flare using the flow meters.

Recordkeeping

G. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall maintain records of the monthly and running 12-month NO_x emissions from the Ammonia Safety Flare, MR-51 Flare Tip and MR-51 Flare Pilot with supporting calculations.

H. Pursuant to Sections 39.5(7)(d) and (e) of the Act, the Permittee shall maintain records of the monthly usage of natural gas in terms of 10^6 Ft^3.

I. Pursuant to Sections 39.5(7)(d) and (e) of the Act, the Permittee shall maintain records of the monthly natural gas usage of the MR-51 Flare Pilot in terms of 10^6 Ft^3 by use of the following formula:

$$\textit{Natural Gas Usage}\left(\frac{10^6\,Ft^3}{month}\right) = \frac{\textit{Monthly Operation of unit (hours)} \times \textit{Rated Capacity of unit}\left(\frac{10^6\,BTU}{hr}\right)}{\frac{1020\,BTU}{SCF\ of\ natural\ gas}}$$

J. Pursuant to Sections 39.5(7)(d) and (e) of the Act, the Permittee shall maintain records of the dates and times during which the MR-51 Flare Tip is operational and the volume of processes gas flowing through SG-1 into the process and venting to the MR-51 flare in units of SCF of natural gas at 60°F and the Permittee shall convert the quantity of natural gas per month to mmBTU per month by multiplying by 0.001020 mmBTU/SCF.

K. Pursuant to Sections 39.5(7)(d) and (e) of the Act, the Permittee shall maintain records of the pounds of ammonia vented to the Ammonia Safety Flare per month.

g. i. **Operational and Production Requirements**

A. Pursuant to Section 39.5(7)(a) of the Act, operation of the MR-51 Flare Tip shall not exceed 250 hours per year. These limits are revised from limits established in Permit #73070033. Specifically, the annual operating limit is reduced from 672 hours to 250 hours. [T1]

B. Pursuant to Construction Permit #94030110, emissions and operation of the MR-51 flare for control of process gas shall not exceed the following limits. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total). [T1]

Operating Hours (Hrs/Yr)
250

C. Pursuant to Section 39.5(7)(a) of the Act, the MR-51 Flare Tip may operate to voluntarily control certain process gas streams during process upsets, as well as to control process gas during startup and shutdown. [T1]

D. Pursuant to Section 39.5(7)(a) of the Act, operation of the ammonia safety flare shall not exceed 10,310 lb/month and 28,600 lb/year of vented ammonia. The monthly limit is based on the maximum operation due to weather events, operation of safety devices and half of the annual operation due to power outages and ammonia unloading. [T1]

ii. Compliance Method (Operational and Production Requirements)

Monitoring

A. Pursuant to Section 39.5(7)(d) of the Act, the Permittee shall monitor the quantity of ammonia flared in lbs using the flow meters.

Recordkeeping

B. Pursuant to Construction Permit #94030110, the Permittee shall keep records for each period that the MR-51 flare is used for control of process gas, which records shall at a minimum include: [T1]

I. Date and duration of flaring; and

II. Reason for flaring.

C. Pursuant to Construction Permit #94030110, the records required by condition 4.5.2(g)(ii)(B) shall be retained for at least two years following an event, maintained at a readily accessible location at the plant, and be available to representatives of the Agency during normal working and/or operating hours. [T1]

D. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall maintain records of the dates, times and durations of the startup and shutdown of the Primary Reformer.

E. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall maintain records of the monthly throughput of ammonia to flare MR-25. Additionally, the Permittee shall determine the annual quantity of ammonia sent to flare MR-25 by summing the quantity of ammonia flared in the current month with the preceding 11 months.

3. Non-Applicability Determinations

a. The emission units identified in Condition 4.1.1 are not subject to the New Source Performance Standards (NSPS) for Ammonium Sulfate Manufacture, 40 CFR Part 60 Subpart PP, because the affected plant does not manufacture ammonium sulfate.

b. The emission units identified in Condition 4.1.1 are not subject to 35 IAC 216.121, because the units are not fuel combustion emission units.

c. The emission units SG-1, R-2, R-3, R-4, T-1, R-5, DC-20 and T-2 are not subject to 35 IAC 217 Subpart O, because the process emission units in the affected ammonia plants do not use or produce nitric acid.

d. The emission units identified in Condition 4.1.1 are not subject to 35 IAC 217 Subpart K because the units do not produce products of organic nitrations and/or oxidations using nitric acid.

e. The emission units identified in Condition 4.1.1 are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the units do not use an add-on control device to achieve compliance with an emission limitation or standard.

4. Other Requirements

For the emission units in Condition 4.1.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act.

a. i. **Title I Recordkeeping Requirements (Construction Permit #15050034) [T1]**

A. Pursuant to Construction Permit #15050034, the Permittee shall keep the following records for existing units that are physically modified or experience an increase in utilization as a consequence of the converter replacement project and other equipment changes (new heat exchanger for feed to the reactor, new waste heat boiler, a waste heat superheater, and a new hot potassium carbonate trim cooler): [T1]

I. Before beginning actual construction of the project, the Permittee shall document and maintain a record of the following information: [40 CFR 52.21(r)(6)(i)]

1. A description of the project;

2. Identification of the emissions unit(s) whose emissions could be affected by the project; and

3. A description of the applicability test used to determine that the project is not a major modification, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded under 40 CFR 52.21(b)(41)(ii)(c) and an explanation for why such amount was excluded, and any netting calculations, if applicable.

II. The Permittee shall keep records for the emissions of relevant NSR pollutants that are emitted by any emissions unit identified in 40

CFR 52.21(r)(6)(i)(b) and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 10 years following resumption of regular operations after the change. [40 CFR 52.21(r)(6)(iii)]

b. **Supporting Records for Emissions**

i. Pursuant to Construction Permit #15050034, the Permittee shall keep records for the operation of emission units to support the records for emissions required by Condition 4.1.4(a), including records for routine operation and records for a typical operation that may be accompanied by more emissions than normally present. [T1]

ii. Pursuant to Section 39.5(7)(d) of the Act, the Permittee shall maintain all records of calculations of annual emissions including the emission factors used and the origin of the emission factors, the annual natural gas throughput, and annual ammonia production.

c. **Operational Flexibility Requirements**

i. Pursuant to Section 39.5(12)(a)(i) of the Act, the Permittee is authorized to make the following physical or operational change with respect to the emission units identified in Condition 4.1.1 without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

A. Operation of the sulfur guard in both the normal operating mode (desulfurization of methane) and the regeneration mode (to regenerate the activated carbon beds using superheated steam) is allowed.

I. Pursuant to 35 IAC 214.301, when the sulfur guard operates in regeneration mode the following additional limitation shall apply: no person shall cause or allow the emission of SO_2 into the atmosphere from SG-1 to exceed 2,000 ppm.

II. The Permittee shall comply with all other applicable conditions included in Section 4.1.2 including 4.1.2(a)(i)(A), 4.1.2(b)(i)(B), and 4.1.2(d)(i)(A) during periods in which the SG-1 unit is operated in regeneration mode.

B. Operation of the ammonia safety flare during low pressure weather systems, power outages, mechanical failure of one or more compressors, operation of safety devices in the ammonia storage area, and ammonia barge unloading is allowed.

ii. Pursuant to Section 39.5(7)(d) of the Act, the Permittee shall maintain records of the emissions of the sulfur guard and ammonia safety flare when operated under the Operation Flexibility Requirements of 4.1.4(c)(i) above. The following records shall be maintained:

A. To demonstrate compliance with 4.1.4(c)(i)(A), the Permittee shall perform the monitoring and recordkeeping required by Conditions 4.1.2(a)(ii), 4.1.2(b)(ii), and 4.1.2(d)(ii)(B).

B. To demonstrate compliance with 4.1.4(c)(i)(A)(I), the Permittee shall maintain records of the following:

I. Dates and times during which the sulfur guard operates in regeneration mode.

II. Records indicating the sulfur content of natural gas supplied to the sulfur guard.

III. The total quantity of natural gas supplied to the sulfur guard between periods during which the sulfur guard is operated in regeneration mode in SCF.

IV. When operating the sulfur guard in regeneration mode, the Permittee shall maintain the following records:

1. Unless this information is provided by the supplier of natural gas, the Permittee shall determine the sulfur concentration in (lbm/ft3) using the following equation for each shipment of natural gas containing a different sulfur concentration:

$$C_{gas} = \frac{Cppm * P * (MW)}{R * T * 10^6}$$

Where:
C_{gas}= sulfur concentration of natural gas in lbm/ft^3
C_{ppm} = sulfur concentration of the natural gas in ppmv
P = pressure of gas at measured Cppmv (14.696 psi)
MW = molecular weight of sulfur (32 lbm/mol)
R = ideal gas constant (10.732 ft^3•psi/(R(lbm•mol))
T = temperature of gas at measured ppmv (519.67 R)

The Permittee shall maintain records of this calculation, or other documentation of the sulfur content of the natural gas in (lbm/ft^3).

2. The Permittee shall determine the sulfur buildup in the sulfur guard within 20 days of the end of the month in which the sulfur guard is operatedin regeneration mode:

$$S_{buildup} = C_{gas}\left(\frac{lbm}{scf}\right) \times Natural\ gas\ usage\ between\ regenerations\ (scf)$$

3. Within 20 days of the end of the month in which the sulfur guard in regeneration mode, the Permittee shall determine the sulfur dioxide concentration of emissions in ppmv using the following equation:

$$Cppm = \frac{m(R)T}{P(V)(MW)} \times 10^6$$

Where:
Cppm = concentration of sulfur dioxide in ppmv
m= mass of sulfur buildup in the sulfur guard
R= ideal gas constant (10.732 ft^3•psi/(R(lbm/mol))
T= temperature of emitted gas (R)
P= Pressure of emitted gas (14.696 psi)
V= volume of emissions (scf)
MW= molecular weight of sulfur dioxide (64.06 lb/mol)

C. To demonstrate compliance with 4.1.4(c)(i)(B), the Permittee shall comply with the monitoring and recordkeeping requirements of permit section 4.1.2 pertaining to the ammonia safety flare.

D. Pursuant to Sections 39.5(7)(b), (d), and (e) of the Act, to demonstrate compliance with 4.1.2(a)(i)(A), the Permittee shall conduct visible emissions observations of unit SG-1 when operating in regeneration mode according to Conditions 4.1.2(a)(ii)(A)(III) through 4.1.2(a)(ii)(A)(VIII) whenever the unit is operating in regeneration mode until at least four consecutive instances of monitoring indicate compliance with Condition 3.1(b)(i). Thereafter, visible emissions observations may be conducted at a minimum of once every 4th regeneration basis. Monitoring shall revert to being performed whenever the unit is in regeneration mode if a deviation from the limit in Condition 3.1(b)(i) is detected. An Observation frequency of once every fourth regeneration event may resume after 4 consecutive visible emissions observations of each regeneration event indicate no deviation from the limit in Condition 3.1(b)(i).

E. The Permittee shall maintain records required by 4.1.2(a)(ii)(B) for each visible emission observation required by 4.1.4(c)(ii)(D).

5. Reporting Requirements

The Permittee shall submit the following information pursuant to Section 39.5(7)(f) of the Act. Addresses are included in Attachment 3.

a. **Prompt Reporting**

i. A. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the IEPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows unless a different period is specified by a particular permit provision, i.e., NSPS or NESHAP requirement:

I. Requirements in Conditions 4.1.2(a)(i), 4.1.2(b)(i), 4.1.2(c)(i), 4.1.2(d)(i), 4.1.2(e)(i), 4.1.2(f)(i), and 4.1.2(g)(i).

II. Requirements in Condition 4.1.4(c).

B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).

ii. The Permittee shall notify the IEPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Report required by Condition 3.5(b).

iii. The deviation reports shall contain at a minimum the following information:

A. Date and time of the deviation.

B. Emission unit(s) and/or operation involved.

C. The duration of the event.

D. Probable cause of the deviation.

E. Corrective actions or preventative measures taken.

b. **State Reporting (Construction Permit #15050034) [T1]**

i. Pursuant to Construction Permit #15050034, The Permittee shall submit a report to the Illinois EPA and USEPA if the annual CO, NO_x and PM emissions, in tons per year, from the affected converter project, exceeds the baseline actual emissions (as documented an maintained pursuant to 40 CFR 52.21(r)(6)(i)(c), by a significant amount (as defined in 40 CFR 52.21(b)(23)), and if such emissions differ from the

preconstruction projection as documented and maintained pursuant to 40 CFR 52.21(r)(6)(i)(c). Such report shall be submitted to the Illinois EPA and USEPA within 60 days after the end of such year. The report shall contain the following information: [40 CFR 52.21(r)(6)(v)]

A. The name, address and telephone number of the source;

B. The annual emissions as calculated pursuant to 40 CFR 52.21(r)(6)(iii); and

C. Any other information that the Permittee wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).

4.2 Ammonia Plant - Combustion Units

1. Emission Units and Operations

Emission Units	Pollutants Being Regulated	Original Construction Date	Modification/ Reconstruction Date	Air Pollution Control Devices or Measures	Monitoring Devices
R-1: Reformer Combustion (495 mmBtu/hr)	CO	7/1965	6/2016	None	None
H-R4: Low Temperature Shift Convertor Startup Heater (3.5 mmBtu/hr)	CO	1/1967	N/A	None	None
H-R6: Ammonia Synthesis Converter Startup Heater (26 mmBtu/hr)	CO	7/1967	N/A	None	None

2. Applicable Requirements

For the emission units in Condition 4.2.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act.

a. i. **Opacity Requirements**

A. The Ammonia Plant- Combustion Units R-1, H-R4 and H-R6 are subject to the opacity requirements outlined in Condition 3.1(b)(i).

ii. Compliance Method (Opacity Requirements)

A. Pursuant to Sections 39.5(7)(b), (c), and (d) of the Act, the Permittee shall demonstrate compliance with the visible emission provisions of Condition 3.1(b)(i), through periodic visible emissions observations as follows:

I. The Permittee shall conduct visible emissions observations of R-1 according to Conditions 4.2.2(a)(ii)(A)(III) through (VIII) below, on a weekly basis until at least 4 consecutive weeks of data indicates compliance with Condition 3.1(b)(i). Thereafter, visible emissions observations may revert to a monthly basis. If no visible emissions are detected after three consecutive months of observations, the observation frequency can be reduced to a quarterly basis. Monitoring shall be performed on a weekly basis if a deviation from the limit in Condition 3.1(b)(i) is detected. Monthly observations may resume after another 4 consecutive weeks of data indicates no visible emissions. Quarterly monitoring may resume after no visible emissions are detected after three consecutive months of additional monitoring.

II. The Permittee shall conduct visible emissions observations of the H-R4 and H-R6 at least once per period during which the respective unit has operated for 24 hours consecutively. The observations shall be performed according to Conditions 4.2.2.(a)(ii)(A)(III) through 4.2.2.(a)(ii)(A)(VIII).

III. The Permittee shall use USEPA RM 9 with 1 test run.

IV. In lieu of RM 9, the Permittee may demonstrate compliance using USEPA RM 22, with an observation period of at least 6 minutes. A determination of no visible emissions is assumed to be equivalent to

0% opacity. If visible emissions are detected using RM 22, follow-up RM 9 monitoring must be performed within 24 hours in order to quantify the percentage of opacity from the affected emission unit.

V. As per RM 9, opacity monitoring shall be conducted by a certified opacity observer. Determination of opacity and/or compliance verification via RM 9 shall overrule a determination made via RM 22.

VI. Monitoring by a third party is not required unless requested in writing by the IEPA and/or USEPA.

VII. If an exceedance of the limit in Condition 3.1(b)(i) is indicated, the Permittee shall take corrective action within 48 hours of such observation or indicate a deviation within the monitoring record. Corrective action may include, but is not limited to, maintenance and repair, and/or adjustment of operating parameters of the emission unit. If corrective action was taken, the Permittee shall perform a follow-up verification of compliance by monitoring for visible emissions within 48 hours of the initial observation.

VIII. A deviation shall be recorded in the monitoring record:

1. If RM 22 is used to verify compliance with Condition 3.1(b)(i) and visible emissions are observed for more than a total of 3 minutes during the 6 minute observation period and the Permittee does not complete a RM 9 within 24 hours to quantify the percentage of opacity from the affected emission unit;

2. If RM 22 is used to verify compliance with Condition 3.1(b)(i) and visible emissions are observed for more than a total of 3 minutes during the 6 minute observation period and the follow-up RM9 indicates the opacity of the emission unit exceeds 30%;

3. If RM 9 is used to verify compliance with Condition 3.1(b)(i) and the affected emission unit's opacity exceeds 30%; or

4. If an exceedance is observed and corrective action cannot be made within 48 hours.

Recordkeeping

B. Pursuant to Sections 39.5(7)(b), (d) and (e) of the Act, the Permittee shall collect and maintain the following records of the visible emissions observations:

I. Copies of all field data sheets as per RM 9 and/or 22 which includes but is not limited to the following:

1. Date and time the observations were performed;

2. Name(s) of observing personnel and their affiliation;

3. The total elapsed time for each observation, i.e., the observation period, pursuant to the method used;

4. Identification of the equipment which was observed; and

5. The findings of the observation including the presence of any visible emissions or the percentage of opacity.

II. Operational status of each affected emission unit.

III. An indication of the monitoring frequency, i.e., weekly, monthly or quarterly.

IV. If applicable, a description of any corrective action taken including if the corrective action took place within 48 hours of the initial observation that showed an exceedance.

V. The Permittee shall maintain records of the dates on which H-R4 and H-R6 are operational, including start time and end time.

b. i. **Carbon Monoxide (CO) Requirements**

A. Pursuant to 35 IAC 216.121, the emission of CO into the atmosphere from the Ammonia Synthesis Converter Startup Heater H-R6 and the and Primary Reformer R-1 with actual heat input greater than 2.9 MW (10mmBtu/hr), shall each not exceed 200 ppm, corrected to 50 percent excess air.

ii. Compliance Method (CO Requirements)

Monitoring

A. Compliance with the requirements of 4.2.2(d) shall be used to demonstrate compliance with the CO limit for R1 and H-R6.

Recordkeeping

B. Pursuant to Section 39.5(7)(b) and (e) of the Act, the Permittee shall record the date of the most recent tune-up for each unit subject to tune-ups according to 40 CFR 63.7540(a)(10) or (12). Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown.

c. i. **Operational and Production Requirements**

A. Pursuant to Section 39.5(7)(a) of the Act, H-R6 limited to an annual average capacity factor of no more than 10 percent. [T1N]

B. Pursuant to Section 39.5(7)(a) of the Act, natural gas usage in H-R6 shall not exceed 19 mmscf/month or 22.33 mmscf/year. [T1N]

ii. Compliance Method (Operational and Production Requirements)

Recordkeeping

A. Pursuant to Sections 39.5(7)(d) and (e) of the Act, the Permittee shall maintain records of the H-R6's monthly and annual natural gas usage in terms of 10^6 Ft^3. Annual natural gas usage shall be determined by summing the natural gas usage of the eleven previous months and current month.

d. **40 CFR 63 Subpart DDDDD National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters**

i. Work Practice Requirements

A. Pursuant to 40 CFR 63.7485, R-1, H-R4 and H-R6 are subject to 40 CFR Part 63, Subpart DDDDD; however, no numerical emission limits apply to R-1, H-R4 and H-R6. This is because the units are designed to burn gas 1 as defined at 40 CFR 63.7575 and H-R6 is a "limited use process heater".

B. Pursuant to 40 CFR 63.7500(a)(3), at all times, R-1, H-R4 and H-R6 must be operated and maintained, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

C. Pursuant to 40 CFR 63.7540(a)(10), the Permittee must complete a tune-up of process heater R-1 every year.

D. Pursuant to 40 CFR 63.7540(a)(12), the Permittee must complete a tune-up of process heaters H-R4 and H-R6 every 5 years.

ii. Compliance Method (Work Practice Requirements)

Monitoring

A. Pursuant to 40 CFR 63.7500, 40 CFR 63.7540(a)(10),and 40 CFR 63.7540(a)(12) the Permittee must conduct a tune-up of R-1 annually, and H-R4, and H-R6 once every 5 years to demonstrate continuous compliance with the work practice standards of 40 CFR Part 63, Subpart DDDDD, as specified below:

I. Inspect the burner, and clean or replace any components of the burner as necessary. The Permittee may delay the burner inspection until the next scheduled unit shutdown; [40 CFR 63.7540(a)(10)(i)]

II. Inspect the flame pattern and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available; [40 CFR 63.7540(a)(10)(ii)]

III. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly. The Permittee may delay the inspection until the next scheduled unit shutdown; [40 CFR 63.7540(a)(10)(iii)]

IV. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which the units are subject; and [40 CFR 63.7540(a)(10)(iv)]

V. Measure the concentrations in the effluent stream of CO and NO_x in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made. Measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made. Measurements may be taken using portable CO and NO_x analyzers. [40 CFR 63.7540(a)(10)(v); 40 CFR 71.6(a)(3)(i)(B)]

B. Pursuant to 40 CFR 63.7540(a)(13), if R-1, H-R4, or H-R6 is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.

Recordkeeping

C. Pursuant to 40 CFR 63.7540(a)(10)(vi), the Permittee must record and maintain on-site a report containing the following information for R-1, H-R4 and H-R6:

I. The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;

II. A description of any corrective actions taken as a part of the tune-up; and

III. The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.

3. Non-Applicability Determinations

a. The Ammonia Plant Combustion Units specified in Condition 4.2.1 are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the units do not use an add-on control device to achieve compliance with an emission limitation or standard.

4. Other Requirements

For the emission unit R-1 in Condition 4.2.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act.

a. i. **Title I Monitoring and Testing Requirements (Construction Permit #15050034) [T1]**

A. Pursuant to Construction Permit #15050034 and 40 CFR 52.21, the Permittee shall keep the following records for existing units that are physically modified or experience an increase in utilization as a consequence of the converter replacement project: [T1]

I. Before beginning actual construction of the project, the Permittee shall document and maintain a record of the following information: [40 CFR 52.21(r)(6)(i)]

1. A description of the project;

2. Identification of the emissions unit(s) whose emissions could be affected by the project; and

3. A description of the applicability test used to determine that the project is not a major modification, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded under 40 CFR 52.21(b)(41)(ii) (c) and an explanation for why such amount was excluded, and any netting calculations, if applicable.

II. The Permittee shall keep records for the emissions of relevant NSR pollutants that are emitted by any emissions unit identified in 40 CFR 52.21(r)(6)(i)(b) and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a

period of 10 years following resumption of regular operations after the change. [40 CFR 52.21(r)(6)(iii)]

Testing

B. Pursuant to Construction Permit #15050034, the Permittee shall have emissions testing performed for the primary reformer as follows at its expense by a qualified testing service while the reformer is operating at maximum rates and under other representative operating conditions: [T1]

I. Emissions testing shall be conducted for emissions of NOx, CO, filterable PM, filterable PM_{10} and $PM_{2.5}$, condensable PM, as specified below, provided, however, that if the Permittee considers all filterable PM_{10} emissions to be emissions of filterable $PM_{2.5}$, testing for emissions of filterable $PM_{2.5}$ need not be performed unless specifically requested by the Illinois EPA.

Note: Specific requirements for periodic emission testing may be established in the CAAPP permit for the facility.

II. This testing shall be conducted as follows:

1. Within one year after initial startup of the converter or 120 days after achieving the maximum production rate at which the reformer will be operated, whichever occurs first.

2. In addition, the Permittee shall perform emission tests as provided below as requested by the Illinois EPA within 90 days of a written request by the Illinois EPA or such later date agreed to by the Illinois EPA.

III. Appropriate USEPA test methods, including the following methods, shall be used for testing, unless other methods adopted by or being developed by USEPA or other alternative test methods are approved by the Illinois EPA.

Nitrogen Oxides	Method 7, 7E, 19 or 320
Carbon Monoxide	Method 10 or 320
Filterable PM	Method 5 or 5I
Filterable PM_{10} & $PM_{2.5}$	Method 5I or 201A
Condensable PM	Method 202

IV. Test plans, test notifications, and test reports shall be submitted to the Illinois EPA.

V. In addition to other information required in a test report, test reports shall include detailed information on the operating conditions of the reformer during testing, including:

1. Firing rate for natural gas, (mmBtu/hour).

2. Oxygen content in the flue gas and other significant operating parameters of the reformer.

3. Opacity of the exhaust, 6-minute averages, as determined by Method 9, if visible emissions, as determined by Method 22, are typically present during the operation of the reformer.

Recordkeeping

C. Pursuant to Construction Permit #15050034, the Permittee shall keep records for the operation of emission units to support the records for emissions required by Condition 4.2.4(a)(i)(A), including records for routine operation and records for a typical operation that may be accompanied by more emissions than normally present. [T1]

D. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall retain records of the tests required by 4.2.4. (a)(i)(B) for at least five years from the date of the tests.

E. Pursuant to Section 39.5(7)(d) of the Act, The Permittee shall maintain all records of calculations of annual emissions calculated by summing the current month's emissions with the emissions of preceding 11 months. Records shall also include the emission factors used and the origin of the emission factors, the annual natural gas throughput, and annual ammonia production.

5. Reporting Requirements

The Permittee shall submit the following information pursuant to Section 39.5(7)(f) of the Act. Addresses are included in Attachment 3.

a. Prompt Reporting

i. A. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the IEPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows unless a different period is specified by a particular permit provision, i.e., NSPS or NESHAP requirement:

I. Requirements in Conditions 4.2.2(a)(i), 4.2.2(b)(i), 4.2.2(c)(i), and 4.2.2. (d)(i).

II. Requirements in Condition 4.2.4(a)(i).

B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).

ii. The Permittee shall notify the IEPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Report required by Condition 3.5(b).

iii. The deviation reports shall contain at a minimum the following information:

A. Date and time of the deviation.

B. Emission unit(s) and/or operation involved.

C. The duration of the event.

D. Probable cause of the deviation.

E. Corrective actions or preventative measures taken.

b. State Reporting (Construction Permit #15050034) [T1]

i. Pursuant to Construction Permit #15050034, the Permittee shall submit a report to the Illinois EPA and USEPA if the annual CO, NO_x and PM emissions, in tons per year, from the affected converter project, exceeds the baseline actual emissions (as documented an maintained pursuant to 40 CFR 52.21(r)(6)(i)(c), by a significant

amount (as defined in 40 CFR 52.21(b)(23)), and if such emissions differ from the preconstruction projection as documented and maintained pursuant to 40 CFR 52.21(r)(6)(i)(c). Such report shall be submitted to the Illinois EPA and USEPA within 60 days after the end of such year. The report shall contain the following information: [T1] [40 CFR 52.21(r)(6)(v)]

A. The name, address and telephone number of the source;

B. The annual emissions as calculated pursuant to 40 CFR 52.21(r)(6)(iii); and

C. Any other information that the Permittee wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).

c. Federal Reporting

Pursuant to 40 CFR 63.7550(a) and Table 9 to 40 CFR Part 63 Subpart DDDDD, the Permittee shall submit compliance reports annually for the boilers according to the requirements in 40 CFR 63.7550(b). The compliance reports must contain the following:

i. Information required in 40 CFR 63.7550(c)(1) through (5), including:

A. Company and Facility name and address.

B. Boiler information, emissions limitations, and operating parameter limitations.

C. Date of report and beginning and ending dates of the reporting period.

D. Date of the most recent tune-up for the boilers and the date of the most recent boiler inspection if it was not done annually or biennially and was delayed until the next scheduled or unscheduled unit shutdown.

E. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

ii. If there are no deviations from the requirements for work practice standards for periods of startup and shutdown, a statement that there were no deviations from the work practice standards during the reporting period.

iii. If the Permittee has a deviation from a work practice standard for periods of startup and shutdown, during the reporting period, the report must additionally contain the information in 40 CFR 63.7550(d) as follows:

A. A description of the deviation and which work practice standard from which the Permittee deviated.

B. Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.

C. If the deviation occurred during an annual or biennial performance test, provide the date the annual or biennial performance test was completed.

4.3 Ammonia Plant - Cooling Towers

1. Emission Units and Operations

Emission Units	Pollutants Being Regulated	Original Construction Date	Modification/ Reconstruction Date	Air Pollution Control Devices or Measures	Monitoring Devices
W-1A: Cooling Tower	PM	1965	N/A	None	None
W-1B: Cooling Tower	PM	1974	N/A	None	None
W-1C: Cooling Tower	PM	1976	N/A	None	None
W-1D: Cooling Tower	PM	1978	N/A	None	None
W-1E: Cooling Tower	PM	1978	N/A	None	None
W-1F: Cooling Tower	PM	1997	N/A	None	None
W-1G: Cooling Tower	PM/PM_{10}/$PM_{2.5}$	10/2013	N/A	Drift Eliminator	None

2. Applicable Requirements

For the emission units in Condition 4.3.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act.

a. i. **Particulate Matter (PM) Requirements**

A. Pursuant to 35 IAC 212.322(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from Cooling Tower W-1A or any other process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission units at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 (see Condition 7.2(b)).

B. Pursuant to 35 IAC 212.321(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from unit Cooling Tower W-1B, W-1C, W-1D, W-1E, W-1F, W-1G or any other new process emission which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see Condition 7.2(a)).

C. Pursuant to Construction Permit #11050039, the emissions of PM, PM_{10}, and $PM_{2.5}$, from Cooling Tower W-1G shall not exceed 2.0 tons per year, as determined from relevant operating data for the cooling tower and the efficiency of the drift eliminators, using engineering calculations for the emissions due to the drift from the unit. Compliance with this annual limit shall be determined from a running total of 12 months of data. [T1]

ii. Compliance Method (PM Requirements)

Monitoring

A. Pursuant to Section 39.5(7)(b) of the Act, compliance with the emission limits of 4.3.2(a)(i) shall be demonstrated through the Testing and Recordkeeping Requirements of 4.3.2(a)(ii)(B) through (K) and the operational requirements of section 4.3.2(b).

Testing

B. Pursuant to Construction Permit #11050039, the Permittee shall sample and analyze the water being circulated in Cooling Tower W-1G on at least a quarterly basis for the total dissolved solids content. Measurements of the total dissolved solids content in the wastewater discharge associated with the affected unit, as required by a National Pollution Discharge Elimination System permit, may be used to satisfy this requirement if the effluent has not been diluted or otherwise treated in a manner that would significantly reduce its total dissolved solids content. [T1]

C. Pursuant to Sections 39.5(7)(b) and (c) of the Act, the Permittee shall sample and analyze the water being circulated in (a) the common basin Cooling Towers (i.e. W-1A, W-1B, W-1D, W-1E and W-1F), (b) Cooling Tower W-1C, and (c) Cooling Tower W-1G on at least a quarterly basis for the total dissolved solids content. Measurements of the total dissolved solids content in the wastewater discharge associated with the affected unit, as required by a National Pollution Discharge Elimination System permit, may be used to satisfy this requirement if the effluent has not been diluted or otherwise treated in a manner that would significantly reduce its total dissolved solids content.

D. Pursuant to Construction Permit #11050039 and 40 CFR 63.404(a), upon written request by the Illinois EPA, the Permittee shall promptly have the water circulating in Cooling Tower sampled and analyzed for the presence of hexavalent chromium in accordance with the procedures of 40 CFR 63.404(a). [T1]

E. Pursuant to Construction Permit #11050039, the Permittee shall keep records for the sampling and analysis activity required by Condition 4.3.2.(b)(ii)(D), including documentation for sampling and analysis as well as the resulting data that is collected. [T1]

F. The Permittee shall comply with all the requirements of Section 7.1.

Recordkeeping

G. Pursuant to Construction Permit #11050039, the Permittee shall keep a file that contains: [T1]

I. The operating factors, if any, used to determine the PM emissions from Cooling Tower W-1G, with supporting documentation.

II. Calculations for the maximum PM_{10} emissions from Cooling Tower W-1G (pounds/hour, 24-hour average), based on maximum operating rate of the cooling tower and other factors that result in the greatest emissions.

H. Pursuant to Construction Permit #11050039, the Permittee shall keep records for the actions used to routinely verify the solids contents of the water circulating in Cooling Tower W-1G, such as sampling and analysis in accordance with the NPDES permit, periodic grab sampling and analysis, conductivity measurements, etc., including: [T1]

I. If routine verification will not be conducted pursuant to the NPDES permit, a written description of the procedures, with explanation of how they act to address compliance.

II. Records for implementation of procedure, including measured value(s)of relevant parameter(s).

I. Pursuant to Construction Permit #11050039, the Permittee shall maintain records for the particulate matter emissions of the affected unit based on the above records, the measurements required by Condition 4.3.2(b)(ii)(B), and appropriate emission estimation methodology and emission factors, with supporting calculations. [T1]

J. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall keep records for the actions used to routinely verify the solids contents of the water circulating in (a) the common basin Cooling Towers W-1A, W-1B, W-1D, W-1E and W-1F, (b) Cooling Tower W-1C, and (c) Cooling Tower W-1G such as sampling and analysis in accordance with the NPDES permit, periodic grab sampling and analysis, conductivity measurements, etc., including:

I. If routine verification will not be conducted pursuant to the NPDES permit, a written description of the procedures, with explanation of how they act to address compliance.

II. Records for implementation of procedure, including measured value(s) of relevant parameter(s).

K. Pursuant to Section 39.5(7)(e) of the Act, The Permittee shall keep records of the operating factors, if any, used to determine the PM emissions from Cooling Towers W-1A, W-1B, W-1C, W-1D, W-1E and W-1F, with supporting documentation.

b. i. **Operational and Production Requirements**

A. Pursuant to Construction Permit #11050039, Cooling Tower W-1G shall be equipped, operated, and maintained with drift eliminators designed to limit the loss of water droplets from the unit to not more than 0.0020 percent of the circulating water flow. [T1]

B. Pursuant to Construction Permit #11050039: [T1]

I. Only non-VOM additives shall be used in Cooling Tower W-1G.

II. Plant process wastewater, other than boiler blowdown and demineralization blowdown, shall not be introduced into cooling water, other than through unintentional leaks, which shall promptly be repaired.

C. Pursuant to Construction Permit #11050039, The Permittee shall operate and maintain Cooling Tower W-1G, including the drift eliminators, in a manner consistent with good air pollution control practices for minimizing emissions. [T1]

D. Pursuant to Construction Permit #11050039, The Permittee shall operate and maintain Cooling Tower W-1G in accordance with written operating procedures, which procedures shall be kept current. These procedures shall address the practices that will be followed as good air pollution control practices. [T1]

ii. Compliance Method (Operational and Production Requirements)

Monitoring

A. Pursuant to Section 39.5(7)(d) of the Act, the Permittee shall perform inspections of the Cooling Towers during each planned outage at the plant. Each inspection shall include a visual observation of the water, noting any

discoloration and observing the drift eliminators noting any buildup or damaged components.

B. Pursuant to Section 39.5(7)(d) of the Act, the Permittee shall review and revise as necessary, the written operating procedures for Cooling Tower W-1G required by Condition 4.3.2(b)(i)(D) at least once annually.

Recordkeeping

C. Pursuant to Construction Permit #11050039, the Permittee shall keep a file that contains: [T1]

I. The design loss specification for the drift eliminators installed on Cooling Tower W-1G.

II. The suppliers' recommended procedures for inspection and maintenance of the drift eliminators.

III. The operating factors, if any, used to determine the amount of water circulated in Cooling Tower W-1G, with supporting documentation.

IV. Copies of the Materials Safety Data Sheets or other comparable information from the suppliers for the various water treatment chemicals that are added to the water circulated in the affected unit.

D. Pursuant to Construction Permit #11050039, the Permittee shall keep the following records for Cooling Tower W-1G:

The amount of water circulated in the cooling tower, gallons/month. As an alternative to the direct data for water flow, these records may contain other relevant operating data for the unit (e.g., water flow to the unit) from which the amount of water circulated in the unit may be reasonably determined. [T1]

E. Pursuant to Construction Permit #11050039, the Permittee shall keep inspection and maintenance logs for the drift eliminators installed in Cooling Tower W-1G. [T1]

F. Pursuant to Section 39.5(7)(e) of the Act, the Permittee maintain a copy of the written operating procedures for Cooling Tower W-1G required by Condition 4.3.2(b)(i)(D).

G. Pursuant to Construction Permit #11050039 and 40 CFR 52.21, the Permittee shall keep the following records for existing units that are physically modified or experience an increase in utilization as a consequence of the construction of Cooling Tower W-1G: [T1]

I. Before beginning actual construction of the project, the Permittee shall document and maintain a record of the following information: [40 CFR 52.21(r)(6)(i)]

1. A description of the project;

2. Identification of the emissions unit(s) whose emissions could be affected by the project; and

3. A description of the applicability test used to determine that the project is not a major modification, including the baseline actual emissions, the projected actual emissions, the amount of

emissions excluded under 40 CFR 52.21(b)(41)(ii)(c) and an explanation for why such amount was excluded, and any netting calculations, if applicable.

II. The Permittee shall keep records for the emissions of relevant NSR pollutants that are emitted by any emissions unit identified in 40 CFR 52.21(r)(6)(i)(b) (See also Condition 4.3.2(b)(ii)(G)(I)(2)) and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity or potential to emit for CO, NO_x or PM at such emissions unit. [40 CFR 52.21(r)(6)(iii)]

H. Pursuant to Construction Permit #11050039, the Permittee shall keep records for the operation of existing units to support the records for emissions required by Condition 4.3.2(b)(ii)(G)(II), including records for the amount of operation, e.g., the operating hours or fuel usage, and records for a typical operation that may be accompanied by more emissions than normally present. [T1]

3: Non-Applicability Determinations

a. The Cooling Towers identified in Condition 4.3.1 are not subject to the National Emission Standards for Hazardous Air Pollution (NESHAP) for Industrial Process Cooling Towers, 40 CFR Part 63 Subpart Q, because the cooling towers are not operated with chromium-based water treatment chemicals.

b. The Cooling Towers identified in Condition 4.3.1 are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the Cooling Towers do not use an add-on control device to achieve compliance with an emission limitation or standard.

4 Other Requirements

As of the date of issuance of this permit, there are no other requirements that need to be included in this Condition.

5: Reporting Requirements

The Permittee shall submit the following information pursuant to Section 39.5(7)(f) of the Act. Addresses are included in Attachment 3.

a. **Prompt Reporting**

i. A. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the IEPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows unless a different period is specified by a particular permit provision, i.e., NSPS or NESHAP requirement:

I. Requirements in Conditions 4.3.2(a)(i) and 4.3.2(b)(i).

B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).

ii. The Permittee shall notify the IEPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Report required by Condition 3.5(b).

iii. The deviation reports shall contain at a minimum the following information:

A. Date and time of the deviation.

B. Emission unit(s) and/or operation involved.

C. The duration of the event.

D. Probable cause of the deviation.

E. Corrective actions or preventative measures taken.

b. **State Reporting**

i. Pursuant to Construction Permit #11050039, the Permittee shall submit a report to the Illinois EPA and USEPA if the annual CO, NOx and PM emissions, in tons per year, from the project authorized by Construction Permit #11050039 (construction of Cooling Tower W-1G), exceed the baseline actual emissions (as documented and maintained pursuant to 40 CFR 52.21(r)(6)(i)(c), by a significant amount (as defined in 40 CFR 52.21(r)(6)(i)(c)). Such Report shall be submitted to the Illinois EPA and USEPA within 60 days after the end of such year. The report shall contain the following information: [40 CFR 52.21(r)(6)(v)] [T1]

A. The name, address and telephone number of the source;

B. The annual emissions as calculated pursuant to 40 CFR 52.21(r)(6)(iii); and

C. Any other information that the Permittee wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).

4.4 Ammonia Plant - Compressors

1. Emission Units and Operations

Emission Units	Pollutants Being Regulated	Original Construction Date	Modification/ Reconstruction Date	Air Pollution Control Devices or Measures	Monitoring Devices
C-02A, C-02B, C-02C: Clark Compressors (5500 HP each, 150mmBtu/hr total)	NO_x, SO_2, VOM	1/1965	N/A	Low NOx Combustion System	None

2. Applicable Requirements

For the emission units in Condition 4.4.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act.

a. i. **Opacity Requirements**

A. The Ammonia Plant- Compressors C-02A, C-02B, and C-02C are subject to the opacity requirements outlined in Condition 3.1(b)(i).

ii. Compliance Method (Opacity Requirements)

A. Pursuant to Sections 39.5(7)(b), (c), and (d) of the Act, the Permittee shall demonstrate compliance with the visible emission provisions of Condition 3.1(b)(i), through periodic visible emissions observations as follows:

I. The Permittee shall conduct visible emissions observations of each individual Clark Compressors C-02, C-02B, and C-02C or observations of Stack S-9 may be conducted in lieu of the individual compressors during normal operations of the compressors. Such observations shall be conducted according to Conditions 4.4.2(a)(ii)(A)(II) through (VII) below, on a weekly basis until at least 4 consecutive weeks of data indicates compliance with Condition 3.1(b)(i). Thereafter, visible emissions observations may revert to a monthly basis. If no visible emissions are detected after three consecutive months of observations, the observation frequency can be reduced to a quarterly basis. Monitoring shall be performed on a weekly basis if a deviation from the limit in Condition 3.1(b)(i) is detected. Monthly observations may resume after another 4 consecutive weeks of data indicates no visible emissions. Quarterly monitoring may resume after no visible emissions are detected after three consecutive months of additional monitoring.

II. The Permittee shall use USEPA RM 9 with 1 test run.

III. In lieu of RM 9, the Permittee may demonstrate compliance using USEPA RM 22, with an observation period of at least 6 minutes. A determination of no visible emissions is assumed to be equivalent to 0% opacity. If visible emissions are detected using RM 22, follow-up RM 9 monitoring must be performed within 24 hours in order to quantify the percentage of opacity from the affected emission unit.

IV. As per RM 9, opacity monitoring shall be conducted by a certified opacity observer. Determination of opacity and/or compliance verification via RM 9 shall overrule a determination made via RM 22.

V. Monitoring by a third party is not required unless requested in writing by the IEPA and/or USEPA.

VI. If an exceedance of the limit in Condition 3.1(b)(i) is indicated, the Permittee shall take corrective action within 48 hours of such observation or indicate a deviation within the monitoring record. Corrective action may include, but is not limited to, maintenance and repair, and/or adjustment of operating parameters of the emission unit. If corrective action was taken, the Permittee shall perform a follow-up verification of compliance by monitoring for visible emissions within 48 hours of the initial observation.

VII. A deviation shall be recorded in the monitoring record:

1. If RM 22 is used to verify compliance with Condition 3.1(b)(i) and visible emissions are observed for more than a total of 3 minutes during the 6 minute observation period and the Permittee does not complete a RM 9 within 24 hours to quantify the percentage of opacity from the affected emission unit;

2. If RM 22 is used to verify compliance with Condition 3.1(b)(i) and visible emissions are observed for more than a total of 3 minutes during the 6 minute observation period and the follow-up RM 9 indicates the opacity of the emission unit exceeds 30%;

3. If RM 9 is used to verify compliance with Condition 3.1(b)(i) and the affected emission unit's opacity exceeds 30%; or

4. If an exceedance is observed and corrective action cannot be made within 48 hours.

Recordkeeping

B. Pursuant to Sections 39.5(7)(b), (d) and (e) of the Act, the Permittee shall collect and maintain the following records of the visible emissions observations:

I. Copies of all field data sheets as per RM 9 and/or 22 which includes but is not limited to the following:

1. Date and time the observations were performed;

2. Name(s) of observing personnel and their affiliation;

3. The total elapsed time for each observation, i.e., the observation period, pursuant to the method used;

4. Identification of the equipment which was observed; and

5. The findings of the observation including the presence of any visible emissions or the percentage of opacity.

II. Operational status of each affected emission unit.

III. An indication of the monitoring frequency, i.e., weekly, monthly or quarterly.

IV. If applicable, a description of any corrective action taken including if the corrective action took place within 48 hours of the initial observation that showed an exceedance.

b. i. **Sulfur Dioxide (SO_2) Requirements**

A. Pursuant to 35 IAC 214.301, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2000 ppm.

ii. Compliance Method (SO_2 Requirements)

Recordkeeping

A. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall maintain monthly records of the fuel types and quantities burned in Clark Compressors C-02A, C-02B and C-02C in mmBtu/month.

c. i. **Volatile Organic Material (VOM) Requirements**

A. Pursuant to 35 IAC 215.301, no person shall cause or allow the discharge of more than 3.6 kg/hr (8lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 215.302 and the following exemption: If no odor nuisance exists the limitation of 35 IAC 215 Subpart G shall only apply to photochemically reactive material.

ii. Compliance Method (VOM Requirements)

Recordkeeping

A. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall comply with the recordkeeping requirement of 4.4.2(b)(ii)(A).

B. Pursuant to Section 39.5(7)(e) of the Act, to demonstrate compliance with Condition 4.4.2(c)(i)(A), the Permittee shall maintain records of VOM emission factors and calculations showing the potential to emit of the compressors.

d. i. **Nitrogen Oxide (NO_x) Requirements**

A. Pursuant to 35 IAC 217.392, the Permittee shall not operate Clark Compressors C-02A, C-02B, and C-02C unless the requirements of 35 IAC 217, Subpart Q are met.

B. Pursuant to 35 IAC 217.388 (a)(1) and (a)(2), the Permittee shall meet one of the following emission limitations:

I. Limiting the discharge into the atmosphere of any gases that contain NO_x to no more than 210 ppmv (corrected to 15 percent O, on a dry basis) for each of Clark Compressors C-02A, C-02B, and C-02C; or

II. The owner or operator must comply with the requirements of the applicable emissions averaging plan as set forth in 35 IAC 217.390. Allowable emissions under the averaging plan are determined as follows:

1. The total sum of allowable NO_x mass emissions from units included in the averaging plan for each fuel used are as follows:

$$N_{all} = \sum_{i=1}^{n} EM_{all(0}$$

N_{all}= Total sum of the allowable NO_x mass emissions from units included in the averaging plan for each fuel used (lbs per ozone season and calendar year).

$EM_{all(i)}$= Total mass of allowable NO_x emissions in lbs for a unit as determined in 35 IAC 217.390(g)(2) (See Condition 4.4.2(d)(i)(B)(II)(2)).

i = Subscript denoting an individual unit and fuel used.

n = Number of different units in the averaging plan.

2. Pursuant to 35 IAC 217.390(g)(2), the allowable emissions for each Clark compressor must be determined as follows:

$$EM_{all(i)} = EM_{all(i)} \times H_i$$

$$E_{all(i)} = \frac{\sum_{j=1}^{m} C_{d(all(j))} \times F_d \times \frac{20.9}{20.9 - \%O_{2d(j)}}}{m}$$

$EM_{all(i)}$ = Total mass of allowable NO_x emissions in lbs for a unit

Where:

$EM_{all(i)}$ = Total mass of allowable NO_x emissions in lbs for a unit.

E_{all} = Allowable NO_x emission rate in lbs/mmBtu calculated according to the above equation.

H = Heat input (mmBtu/ozone season or mmBtu/year) calculated from fuel flow meter and the heating value of the fuel used.

$C_{d(all(j))}$ = Allowable concentration of NO_x in $\frac{lb}{dscf}$ (allowable emission limit in ppmv specified in 35 IAC 217.388(a))

F_d = The ratio of the gas volume of the products of combustion to the heat content of the fuel (dscf/mmBtu) as given in the table of F Factors included in 40 CFR 60, Appendix A, Method 19 or as determined using 40 CFR 60, Appendix A Method 19.

%O2d = Concentration of oxygen in effluent gas stream measured on a dry basis during each of the applicable tests or monitoring runs used for determining emissions, as represented by a whole number percent, e.g., for 18.7% O2d, 18.7 would be used.

i = Subscript denoting an individual unit and the fuel used.

j = Subscript denoting each test run or monitoring pass for an affected unit for a given fuel.

m = The number of test runs or monitoring passes for an affected unit using a given fuel.

ii. Compliance Method (NO_x Requirements)

Monitoring

A. Pursuant to 35 IAC 217.388(a)(4), the owner or operator shall inspect and perform periodic maintenance on each Clark Compressor C-02A, C-02B, and C-02C, in accordance with the Maintenance Plan that documents either:

I. The manufacturer's recommended inspection and maintenance of the applicable air pollution control equipment, monitoring device, and affected unit; or

II. If the original equipment manual is not available or substantial modifications have been made that require an alternative procedure or the applicable air pollution control device, monitoring device, or affected unit, the owner or operator must establish a plan for inspection and maintenance in accordance with what is customary for the type of air pollution control equipment, monitoring device, and affected unit.

B. Pursuant to 35 IAC 217.394(d), except for those years in which a performance test is conducted pursuant to Conditions 4.4.2(d)(ii)(F) and 4.4.2(d)(ii)(G), the owner or operator of Clark Compressors C-02A, C-02B, and C-03C shall monitor NO_x concentrations annually, once between January 1 and May 1 or within the first 676 hours of operation per calendar year, whichever is later. If annual operation is less than 876 hours per calendar year, each affected unit must be monitored at least once every five years.

Monitoring must be performed as follows:

I. A portable NO_x monitor utilizing method ASTM D6522-00, as incorporated by reference in 35 IAC 217.104, or a method approved by the Agency must be used.

II. NO_x and O_2 concentrations measurements must be taken three times for a duration of at least 20 minutes. Monitoring must be done at highest achievable load. The concentrations from the three monitoring runs must be averaged to determine whether the affected unit is in compliance with the applicable emissions concentrations or emissions averaging plan, 35 IAC 217.388 (See Condition 4.4.2(d)(i)(B)).

C. Pursuant to 35 IAC 217.390(f), in order to show compliance with the emissions averaging plan under 35 IAC 217, Subpart Q, the total mass of actual NO_x emissions from the units listed in the emissions averaging plan must be equal to or less than the total mass of allowable NO_x emissions for those units for both the ozone season and calendar year. The following equation must be used to determine compliance:

$$N_{act} \leq N_{all}$$

I. N_{all} is defined in Condition 4.4.2(d)(i)(B)(II)(1).

II. N_{act} is defined as follows:

$$N_{act} = \sum_{i=1}^{n} EM_{act(i)}$$

N_{act} = Total sum of actual NO_x mass emissions from units included in the averaging plan for each fuel used (lbs. per ozone season and calendar year).

$EM_{act(i)}$= Total mass of actual NO_x emissions in lbs. for a unit as determined in 35 IAC 217.390(g)(1) (See Condition 4.4.2(d)(ii)(D)).

i = Subscript denoting an individual unit and fuel used.

N = Number of different units in the averaging plan.

D. Pursuant to 35 IAC 217.390(g), for each unit in the averaging plan, and each fuel used by a unit, determine allowable NO_x emissions as described in Condition 4.4.2(d)(i)(B)(II). Determine actual NO_x emissions using the following equations:

$$EM_{act(i)} = E_{act(i)} \times H_i$$

$$E_{act(i)} = \sum_{j=i}^{m} C_{d(act(j))} \times F_d \times \frac{\left(\frac{20.9}{20.9 - \%O_{2d(j)}}\right)}{m}$$

$EM_{act(i)}$ = Total mass of actual NO_x emissions in lbs. for a unit.

$E_{act(i)}$ = Actual NO_x emission rate (lbs./mmBtu) calculated according to the above equation

H= Heat input (mmBtu/ozone season or mmBtu/year) calculated from fuel flow meter and the heating value of the fuel used.

$C_{d(act)}$= Actual concentration of NOx in lb/dscf (ppmv x 1.194×10^{-7}) on a dry basis for the fuel used. Actual concentration is determined on each of the most recent test runs or monitoring passes performed pursuant to Section 217.394, whichever is higher.

F_d = The ratio of the gas volume of the products of combustion to the heat content of the fuel (dscf/mmBtu) as given in the table of F Factors included in 40 CFR 60, appendix A, Method 19 or as determined using 40 CFR 60, appendix A, Method 19

$\%O_{2d}$ = Concentration of oxygen in effluent gas stream measured on a dry basis during each of the applicable tests or monitoring runs used for determining emissions, as represented by a whole number percent, e.g., for 18.7%O2d, 18.7 would be used.

i= Subscript denoting an individual unit and the fuel used

j= subscript denoting each test run or monitoring pass for an affected unit for a given fuel.

m = the number of test runs or monitoring passes for an affected unit using a given fuel.

Testing

E. Pursuant to Section 39.5(7)(c) of the Act and 35 IAC 217.394(c)(1), once within 5-years of May 1, 2016, the Permittee shall measure emissions by a qualified testing service at maximum load for NO_x using USEPA Method 7, 7E or Method 320 of 40 CFR 60 Appendix A. Each compliance test must consist of three separate runs, each lasting a minimum of 60 minutes. NO_x emissions must be measured while the affected unit is operating at peak load. If the unit combusts more than one type of fuel (gaseous or liquid), including

backup fuels, a separate performance test is required for each fuel. The Permittee shall repeat this performance test every five years.

F. Pursuant to 35 IAC 217.394(b), an owner or operator must conduct subsequent performance tests as follows:

I. For the Clark Compressors, if included in an emissions averaging plan, once every five years. Testing must be performed in the calendar year by May 1 or within 60 days after starting operation, whichever is later.

II. If the monitored data (see Condition 4.4.2(d)(ii)(B)) shows that the unit is not in compliance with the applicable emissions concentration or emissions averaging plan, the owner or operator must report the deviation to the Agency in writing within 30 days (see condition 4.4.5(a)) and conduct a performance test pursuant to 35 IAC 217.394(c)(1) within 90 days after the determination of noncompliance; and

1. When, in the opinion of the Agency or USEPA, it is necessary to conduct testing to demonstrate compliance with 35 IAC 217.388 (See condition 4.4.2(d)(i)(A) and (B)), the owner or operator of a unit must, at his or her own expense, conduct the test in accordance with the applicable test methods and procedures specified in this Section within 90 days after receipt of a notice to test from the Agency or USEPA.

Notes:
East Dubuque Nitrogen Fertilizers, LLC's engines are listed in 35 IAC 217.Appendix G under Phoenix Chemical Co. which was the owner's name at the time of the rulemaking.

G. Pursuant to Section 39.5(7)(c) of the Act, within 120 days of a written request from Illinois EPA, or a later date agreed upon with the Illinois EPA, whichever is later, the Permittee shall have emission tests conducted for the engines operated with the associated low NO_x emissions combustion technology system for NOx by an approved independent testing service.

H. The Permittee shall comply with all the requirements of Section 7.1.

Recordkeeping

I. Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall maintain records of the following items for Clark Compressors C-02A, C-02B, and C-02C:

I. Annual fuel input for the affected compressors (Btu/month and Btu/year)

II. The aggregate annual NO_x emissions, based on fuel consumption and applicable emissions factors, with supporting calculations.

III. The Permittee shall keep the following records for each engine and low NO_x emissions combustion technology:

1. Manufacturer/vendor or source specific operating and maintenance procedures, including the catalyst management plan.

2. Maintenance and repair log for the low NO_x emissions combustion technology, including the date and nature of maintenance and

repair activities performed, e.g., addition or replacement of a catalyst.

J. Pursuant to 35 IAC 217.396(a), the owner or operator of an Appendix G unit (Clark Compressors) or a unit included in an emissions averaging plan must maintain records that demonstrate compliance with the requirements of this 35 IAC 217 Subpart Q, which include but are not limited to the following:

I. Identification, type (e.g., lean-burn, gas-fired), and location of each unit;

II. Calendar date of the record;

III. The number of hours the unit operated on a monthly basis and during each ozone season;

IV. The type and quantity of the fuel used on a daily basis;

V. The results of all monitoring performed on the unit and reported deviations;

VI. The results of all tests performed on the unit;

VII. The plan for performing inspection and maintenance of the units, air pollution control equipment, and the applicable monitoring device, pursuant to 35 IAC 217.388(c);

VIII. A log of inspections and maintenance performed on the unit's air emissions, monitoring device, and air pollution control device. These records must include, at a minimum, date, load levels and any manual adjustments, along with the reason for the adjustment (e.g., air to fuel ratio, timing or other settings);

IX. If complying with the emissions averaging plan provisions of 35 IAC 217.388(b) and 217.390, copies of the calculations used to demonstrate compliance with the ozone season and annual control period limits, noncompliance reports for the ozone season, and ozone and annual control period compliance reports submitted to the Agency; and

X. Identification of time periods for which operating conditions and pollution data were not obtained by either the CEMS or alternate monitoring procedures, including the reasons for not obtaining sufficient data and a description of corrective actions taken.

3. Non-Applicability Determinations

a. The Compressors identified in 4.4.1 do not have any applicable requirements from the National Emission Standards for Hazardous Air Pollution (NESHAP) for Stationary Reciprocating Internal Combustion Engines, 40 CFR Part 63 Subpart ZZZZ, because the pursuant to 40 CFR 63.6590(b)(3), existing spark ignition 2-stroke and 4-stroke lean burn engines do not have to meet the requirements of 40 CFR 63 Subpart ZZZZ or A.

b. The Compressors identified in 4.4.1 are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the compressors do not use an add-on control device to achieve compliance with an emission limitation or standard.

4. Other Requirements

For the emission units in Condition 4.4.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act.

a. i. **Title I Requirements (Construction Permit #11020024 [T1]**

Recordkeeping

A. Pursuant to Construction Permit #11020024, the Permittee shall maintain records of the following items for Clark Compressors C-02A, C-02B, and C-02C: [T1]

I. Hours of operation per year;

II. Number of startups totaled per month and per year for each engine;

III. Inspection, maintenance, and repair logs with dates and nature of the engine maintenance and repairs made; and

IV. NOx, CO and VOM emissions from each engine (tons/year), based on hours of operation and the applicable emission factors with supporting calculations.

V. Except as specified in a particular provision of this permit, reports for deviations from applicable emission standards and control requirements shall include at least the following information: the date, time, and estimated duration of the event; a description of the event; the applicable requirement(s)that were not met; the manner in which the event was identified, if not readily apparent; the probable cause for deviation, if known, including a description of any equipment malfunction/breakdown associated with the event; information on the magnitude of the deviation, including actual emissions or performance in terms of the applicable standard if measure or readily estimated; confirmation that standard procedures were followed or a description of any event-specific corrective actions taken; and a description of any preventative measures taken to prevent future occurrences, if appropriate.

5. Reporting Requirements

The Permittee shall submit the following information pursuant to Section 39.5(7)(f) of the Act. Addresses are included in Attachment 3.

a. **Prompt Reporting**

i. A. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the IEPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows unless a different period is specified by a particular permit provision, i.e., NSPS or NESHAP requirement:

I. Requirements in Conditions 4.4.2(a)(i), 4.4.2(b)(i), 4.4.2(c)(i), 4.4.2(d)(i).

B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).

ii. The Permittee shall notify the IEPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Report required by Condition 3.5(b).

iii. The deviation reports shall contain at a minimum the following information:

A. Date and time of the deviation.

B. Emission unit(s) and/or operation involved.

C. The duration of the event.

D. Probable cause of the deviation.

E. Corrective actions or preventative measures taken.

b. **State Reporting**

i. Pursuant to 35 IAC 217.394(a) and (b), the owner or operator must notify the Agency in writing 30 days and five days prior to testing. The notification must:

A. Provide a testing protocol to the Agency 60 days prior to testing;

B. Not later than 30 days after the completion of the test, submit the results of the test to the Agency; and

C. If, after the 30-days' notice for the initially scheduled test is sent, there is a delay (e.g., due to the operation problems) in conducting the performance test as scheduled, the owner or operator of the unit must notify the Agency as soon as possible of the delay in the original test date, either by providing at least seven days prior notice of the rescheduled date of the rescheduled date of the performance tests, or by arranging a new test date with the Agency by mutual agreement.

ii. Pursuant to the requirements for monitoring in 35 IAC 217.394(b), the owner or operator of the unit must report to the Agency any monitored exceedance of the applicable NO_x concentration from 35 IAC 217.388(a) or (b) (Condition 4.4.2(d)(i)(B)) within 30 days after performing the monitoring.

iii. Pursuant to 35 IAC 217.396(c)(3), within 90 days after permanently shutting down an affected unit or a unit included in an emissions averaging plan, the owner or operator of the unit must withdraw or amend the applicable permit to reflect the unit is no longer in service.

iv. Pursuant to 35 IAC 217.396(c)(4), when demonstrating compliance through an emissions averaging plan:

A. By October 31 following the applicable ozone season, the owner or operator must notify the Agency if he or she cannot demonstrate compliance for that ozone season; and

B. By January 30 of following the applicable calendar year, the owner or operator must submit to the Agency a report that demonstrates the following:

I. For all units that are part of the emissions averaging plan, the total mass of allowable NO_x emissions for the ozone season and for the annual control period;

II. The total mass of actual NO_x emissions for the ozone season and annual coated period for each unit included in the averaging plan;

III. The calculations that demonstrate that the total mass of actual NO_x emissions using equation in 35 IAC 217.390(f) and (g) (See Conditions 4.4.2(d)(ii)(C) and 4.4.2(d)(ii)(D); and

IV. The information required to determine the total mass of actual NO_x emissions and the calculations performed in Condition 4.4.2(d)(ii)(C) and 4.4.2(d)(ii)(D).

v. Pursuant to 35 IAC 217.390(b) and (c), an owner or operator must submit its initial emissions averaging plan to the Agency by January 1, 2008, or by May 1 of the year in which the owner or operator is using a new emissions averaging plan to comply. The plan must include, but is not limited to:

A. The list of affected units included in the plan by units identification number and permit number, and

B. A sample calculation demonstrating compliance using the methodology provided in 35 IAC 217.390(f) (See Conditions 4.4.2(d)(i)(B)(II) and 4.4.2(d)(ii)(C) for both the ozone season and calendar year.

C. The owner or operator may amend an emissions averaging plan only once per calendar year. An amended plan must be submitted to the Agency by May 1 of the applicable calendar year. An amended plan must include the information in 35 IAC 217.390 (See Conditions 4.4.5(b)(v)(A) and (B)) and may change, but is not limited to changing, the group of affected units or reflecting changes in the operation of the affected units. If an amended plan is not received by the Agency by May 1 of the applicable calendar year, the previous year's plan will be the applicable emissions averaging plan

4.5 Urea Plant

1. Emission Units and Operations

Emission Units	Pollutants Being Regulated	Original Construction Date	Modification/ Reconstruction Date	Air Pollution Control Devices or Measures	Monitoring Devices
UR-4A: Falling Film Evaporator	PM/PM_{10}/$PM_{2.5}$, VOM	1/1975	N/A	Scrubber (UF-R42)	None
UR-4B: Falling Film Evaporator	PM/PM_{10}/$PM_{2.5}$, VOM	1/1975	N/A	Scrubber (UF-R42)	None
D24: Curtain Granulator	PM/PM_{10}/$PM_{2.5}$, VOM	1/1992	N/A	Scrubber (G52)	None
C39: Fluidized Bed Process Cooler	PM/PM_{10}/$PM_{2.5}$, VOM	10/1992	N/A	Scrubber (G53)	None
G54: Dust Separator	PM/PM_{10}/$PM_{2.5}$	10/1992	N/A	Scrubber (G56)	None

2. Applicable Requirements

For the emission units in Condition 4.5.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act. In addition, the pump, valves and connectors from the UF-85 resin storage tank to the point where it is injected into liquid urea enroute to the granulator is equipment in organic HAP service as defined in 40 CFR 63.2550 shall comply with the applicable requirements in Section 5.2.

a. i. **Opacity Requirements**

A. Urea Plant units UR-4A, UR-4B, D24, C39 and G54 are subject to the opacity requirements outlined in Condition 3.1(b)(i).

ii. Compliance Method (Opacity Requirements)

A. Pursuant to Sections 39.5(7)(b), (c), and (d) of the Act, the Permittee shall demonstrate compliance with the visible emission provisions of Condition 3.1(b)(i), through periodic visible emissions observations as follows:

I. The Permittee shall conduct visible emissions observations of UR-4A, UR-4B, D24, C39, and G54 according to Conditions 4.5.2(a)(ii)(A)(II) through (VII) below, on a weekly basis until at least 4 consecutive weeks of data indicates compliance with Condition 3.1(b)(i). Thereafter, visible emissions observations may revert to a monthly basis. If no visible emissions are detected after three consecutive months of observations, the observation frequency can be reduced to a quarterly basis. Monitoring shall revert to a weekly basis if a deviation from the limit in Condition 3.1(b)(i) is detected. Monthly observations may resume after another 4 consecutive weeks of data indicates no visible emissions. Quarterly monitoring may resume after no visible emissions are detected after three consecutive months of additional monitoring.

II. The Permittee shall use USEPA RM 9 with 1 test run.

III. In lieu of RM 9, the Permittee may demonstrate compliance using USEPA RM 22, with an observation period of at least 6 minutes. A determination of no visible emissions is assumed to be equivalent to 0% opacity. If visible emissions are detected using RM 22, follow-up

RM 9 monitoring must be performed within 24 hours in order to quantify the percentage of opacity from the affected emission unit.

IV. As per RM 9, opacity monitoring shall be conducted by a certified opacity observer. Determination of opacity and/or compliance verification via RM 9 shall overrule a determination made via RM 22.

V. Monitoring by a third party is not required unless requested in writing by the IEPA and/or USEPA.

VI. If an exceedance of the limit in Condition 3.1(b)(i) is indicated, the Permittee shall take corrective action within 48 hours of such observation or indicate a deviation within the monitoring record. Corrective action may include, but is not limited to, maintenance and repair, and/or adjustment of operating parameters of the emission unit. If corrective action was taken, the Permittee shall perform a follow-up verification of compliance by monitoring for visible emissions within 48 hours of the initial observation.

VII. A deviation shall be recorded in the monitoring record:

1. If RM 22 is used to verify compliance with Condition 3.1(b)(i) and visible emissions are observed for more than a total of 3 minutes during the 6 minute observation period and the Permittee does not complete a RM 9 within 24 hours to quantify the percentage of opacity from the affected emission unit;

2. If RM 22 is used to verify compliance with Condition 3.1(b)(i) and visible emissions are observed for more than a total of 3 minutes during the 6 minute observation period and the follow-up RM9 indicates the opacity of the emission unit exceeds 30%;

3. If RM 9 is used to verify compliance with Condition 3.1(b)(i) a deviation shall be indicated in the monitoring record if the affected emission unit's opacity exceeds 30%; or

4. If an exceedance is observed and corrective action cannot be made within 48 hours

Recordkeeping

B. Pursuant to Sections 39.5(7)(b), (d) and (e) of the Act, the Permittee shall collect and maintain the following records of the visible emissions observations:

I. Copies of all field data sheets as per RM 9 and/or 22 which includes but is not limited to the following:

1. Date and time the observations were performed;

2. Name(s) of observing personnel and their affiliation;

3. The total elapsed time for each observation, i.e., the observation period, pursuant to the method used;

4. Identification of the equipment which was observed; and

5. The findings of the observation including the presence of any visible emissions or the percentage of opacity.

II. Operational status of each affected emission unit.

III. An indication of the monitoring frequency, i.e., weekly, monthly or quarterly.

IV. If applicable, a description of any corrective action taken including if the corrective action took place within 48 hours of the initial observation that showed an exceedance.

b. i. **Particulate Matter (PM) Requirements**

A. Pursuant to 35 IAC 212.321(a), no person shall cause or allow the emissions of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emissions units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see Condition 7.2(a)).

B. Pursuant to Construction Permit #75050110, Emissions from the affected urea plant shall not exceed the following: [T1]

PM Emissions (Ton/Month)	PM Emissions (Ton/Year)
3.7	29.5

These limits are based on the operating limits in Condition 4.6.2(d)(i)(A) and the maximum emissions for each activity.

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

ii. Compliance Method (PM Requirements)

Monitoring

A. Pursuant to Section 39.5(7)(d) of the Act, to demonstrate compliance with the requirements of Condition 4.5.2(b)(i)(A), the Permittee shall comply with the production limitation and recordkeeping requirements of Conditions 4.5.2(d)(i) and 4.5.2(d)(ii).

B. Pursuant to Section 39.6(7)(d) of the Act, compliance with the PM emission limits shall be determined using the following emission factors and equation.

Activity	Pollutant	Controlled Emission Factor (Lb/Ton)
Evaporator	PM/PM_{10}	0.088
Granulator	PM/PM_{10}	0.249
Cooler	PM/PM_{10}	0.131
Dust Separator	PM/PM_{10}	0.023
Granulation PM Total	PM/PM_{10}	0.491

Monthly PM emissions (tons/month) = Material granulated (tons/month) x 0.490 lbs/ton / (2000 lbs/ton).

C. Pursuant to Section 39.5(7)(d) of the Act, the Permittee shall maintain written operating procedures shall be maintained and updated describing normal process and equipment operating parameters; monitoring or instrumentation for measuring control equipment operating parameters, if any; control equipment inspection and maintenance practices; and, availability of spare parts from normal inventory, local suppliers, and other sources. With respect to control equipment maintenance practices, the operating procedures may incorporate the manufacturer's recommended operating instructions, if a copy of these instructions is attached to the procedures.

D. Pursuant to Section 39.5(7)(d) of the Act, pressure drop across the scrubbers UF-R42, G52, G53, and G56 shall be monitored by a manometer or equivalent system. The measured pressure drop shall be prominently displayed and shall be recorded at least once every two hours.

E. Pursuant to Section 39.5(7)(d) of the Act, visual external inspections of scrubbers UF-R42, G52, G53, and G56 shall be conducted at least monthly. Internal inspections shall be performed during each plant turnaround. Each inspection shall include a detailed inspection of the performance and condition of control equipment.

F. Pursuant to Section 39.5(7)(d) of the Act, beginning no later than January 1, 2020 the Permittee shall install scrubber liquid flow meters and commence monitoring of the scrubber liquid flow rate of scrubbers UF-R42, G52, G53, and G56. The Permittee shall maintain the liquid flow rate within the range recorded in the operating procedures required by 4.5.2(b)(ii)(J). The liquid flow rate shall be recorded at least once every two hours.

Testing

G. Pursuant to Section 39.5(7)(c) of the Act, within 180 days of the installation of the flow meters on the scrubbers UF-R42, G52, G53, and G56 as required in Condition 4.5.2(b)(ii)(F) the Permittee shall conduct performance testing using USEPA Method 5. During the performance test, the Permittee will monitor and the pressure drop and the scrubber liquid flow rate.

H. The Permittee shall comply with all the requirements of Section 7.1.

Recordkeeping

I. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall keep records of monthly and annual aggregate PM emissions from the affected urea plant, based on operating rates and the applicable emission factors, with supporting calculations.

J. Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall maintain a copy of the operating procedures for the scrubbers onsite at all times. Within 60 days of completion of the performance testing required by Condition 4.5.2(b)(ii)(G), the Permittee shall update the operating procedures to include the scrubber liquid flow rates and pressure drop ranges determined to demonstrate compliance with the limitations of 4.5.2(b)(i)(A)-(B).

K. Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall maintain records of all inspections performed of the scrubbers and the results of the inspections, including descriptions of any corrective actions taken.

L. Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall maintain records of the following items for the air pollution control devices UF-R42, G52, G53, and G56:

I. The Permittee shall keep the records of the pressure drop across scrubbers. The Permittee shall maintain records of the dates and times the pressure drop is measured to be outside the range recommended in the operating procedures.

II. Permittee shall maintain records of any inspections that occur when the pressure drop or scrubber liquid flow rate is outside of its normal range and shall record the corrective action taken.

III. The Permittee shall keep written records of inspections, other equipment observations, maintenance, and repair of air pollution control equipment which include date, duration, nature, and description of observation or action.

IV. The Permittee shall keep written records of the potential to emit calculations for each process identified in Condition 4.5.1 demonstrating that when complying with the restricted hour of operation, the potential to emit of the units does not exceed the limitations of Condition 4.5.2(b)(i)(A) or 4.5.2(b)(i)(B). These records shall include identification of emission factors used and their origin. These records shall be sufficient to allow the Illinois EPA to evaluate whether the Permittee has complied with all applicable emission limits.

V. The Permittee shall record any period during which any emission source was in operation when its air pollution control equipment was not in operation or was not operating properly. These records shall include the cause for pollution control equipment not operating properly, and shall state what corrective actions were taken, what repairs were made, and what steps were taken to prevent reoccurrence. These records shall also include an estimate of emissions during the time the control device was not operating and shall include emission factors used to perform calculations, the origin of the emission factors, and the number of hours the equipment was not operating properly.

VI. The Permittee shall record any period during which an emission source was not operating normally, in a manner which would exceed the capability of its air pollution control equipment. These records shall include the cause, and shall state what corrective actions were taken and what steps were taken to prevent reoccurrence and an estimate of the emissions caused by the occurrence.

VII. No later than January 1, 2020, the Permittee shall maintain records of the liquid flowrate and air to liquid ratio of scrubbers UF-R42, G52, G53, and G56. The Permittee shall maintain records of the dates and times the scrubber liquid flow rate is measured to be outside the range recommended in the operating procedures.

c. i. **Volatile Organic Material (VOM) Requirements**

A. Pursuant to 35 IAC 215.301, no person shall cause or allow the discharge of more than 3.6 kg/hr (8lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 215.302 and the following exemption: If no odor nuisance exists the limitation of 35 IAC 215 Subpart G shall only apply to photochemically reactive material.

ii. Compliance Method (VOM Requirements)

Monitoring

A. Pursuant to Section 39.5(7)(d) of the Act, to demonstrate compliance with the requirements of Condition 4.5.2(c)(i)(A), the Permittee shall comply with the production limitations in Condition 4.5.2(d)(i).

Recordkeeping

B. Pursuant to Section 39.5(7)(e) of the Act, to demonstrate compliance with the requirements of Condition 4.5.2(c)(i)(A), the Permittee shall comply with the recordkeeping requirements of Condition 4.5.2(d)(ii).

C. Pursuant to Section 39.5.7(e) of the Act, the Permittee shall maintain copies of emission calculations, including emission factors and emission factor origin that demonstrate that the potential VOM emissions from the Urea Plant do not exceed 8 lbs per hour when the facility complies with the operational restrictions.

d. i. **Operational and Production Requirements**

A. Pursuant to Construction Permit #75050110, Operation of the affected urea plant shall not exceed the following limits. [T1]

Activity	Process Rate (Ton/Hour)	(Ton/Day)	(Ton/Year)
Granulation	14.0	336	120,408

ii. Compliance Method (Operational and Production Requirements)

Recordkeeping

A. The Permittee shall keep written records of the throughput and operating hours of units UR-41, UR-4B, D24, C39 and G54 as related to the requirements established by Condition 4.5.2(d)(i)(A). These records may include normal production and operating records and shall be kept on a daily basis.

e. i. **MACT Requirements- 40 CFR 63 Subpart FFFF**

A. The pump, valves, and connectors from the UF-85 resin storage tank to the point where it is injected into liquid urea enroute to the granulator is equipment in organic HAP service as defined in 40 CFR 63.2550. UF-85 resin is a liquid that includes formaldehyde exceeding 5% by weight. Pursuant to 40 CFR 63.2480 and Table 6 of 40 CFR 63 Subpart FFFF, the Permittee has selected to comply with 40 CFR Part 65 Subpart F. The requirements of 40 CFR Part 65 Subpart F are incorporated into the permit in Section 5.2.

3. Non-Applicability Determinations

a. The emission units identified in 4.5.1 are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the emission units do not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

4. Other Requirements

As of the date of issuance of this permit, there are no other requirements that need to be included in this Condition.

5. Reporting Requirements

The Permittee shall submit the following information pursuant to Section 39.5(7)(f) of the Act. Addresses are included in Attachment 3.

a. **Prompt Reporting**

i. A. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the IEPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows unless a different period is specified by a particular permit provision, i.e., NSPS or NESHAP requirement:

I. Requirements in Conditions 4.5.2(a)(i), 4.5.2(b)(i), 4.5.2(c)(i), 4.5.2(d)(i), and 4.5.2(e)(i).

B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).

ii. The Permittee shall notify the IEPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Report required by Condition 3.5(b).

iii. The deviation reports shall contain at a minimum the following information:

A. Date and time of the deviation.

B. Emission unit(s) and/or operation involved.

C. The duration of the event.

D. Probable cause of the deviation.

E. Corrective actions or preventative measures taken.

b. **State Reporting**

Pursuant to Section 39.5(7)(o)(v) of the Act, the Permittee shall notify IEPA, Air Compliance Section, within 60 days of completing the installation of the liquid flow meters on scrubbers UF-R42, G52, G53, and G56.

4.6 Nitric Acid Plants

1. Emission Units and Operations

Emission Units	*Pollutants Being Regulated*	*Original Construction Date*	*Modification/ Reconstruction Date*	*Air Pollution Control Devices or Measures*	*Monitoring Devices*
Plant 1, Tower 1: Secondary Absorption Tower	PM, NO_x	7/1978	11/2008, 5/2011 and 4/2015	H_2O_2 injection system (not utilized) N_2O Catalytic Converter, SCR	NO_x CEMS
Plant 2, Tower 2: Adsorption Tower	PM, NO_x	7/1978	11/2013	SCR, N_2O Abatement Catalyst Bed	NO_x CEMS

2. Applicable Requirements

For the emission units in Condition 4.6.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act.

a. i. **Opacity Requirements**

A. The Nitric Acid Plants are subject to the opacity requirements outlined in Condition 3.1(b)(i).

B. I. Pursuant to 40 CFR 60.72(a)(2), no owner or operator shall cause to be discharged into the atmosphere from Plant 1 Tower 1 or Plant 2 Tower 2 any gases which exhibit 10 percent opacity, or greater.

II. Pursuant to 40 CFR 60.11(c), the opacity standard in paragraph (I) above shall apply at all times except during periods of startup, shutdown, and malfunction as defined by 40 CFR 60.2.

Note: for the operation of the #1 Nitric Acid Plant, Consent Decree 11-CV-50358 includes more specific definitions of "startup" and "shutdown" than those defined in 40 CFR 60.2. These definitions are listed in the CEMS Plan (Attachment 5 to this permit) and may also apply to the #2 Nitric Acid Plant.

C. Pursuant to 35 IAC 217.381(a)(2) or 217.381(c)(3), visible emissions from Nitric Acid Plant Tower 1 or Tower 2 shall not exceed 5 percent opacity.

ii. Compliance Method (Opacity Requirements)

Monitoring/Testing

A. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall conduct visible emissions observations of Plant 1 Tower 1 and Plant 2 Tower 2 according to Conditions 4.6.2(a)(ii)(A)(I) through (VI), below, on a weekly basis. At least once every calendar quarter, the required visible emissions observation will be conducted during a period of startup or shutdown, unless a startup or shutdown does not occur during daylight hours in the given period.

I. The Permittee shall use USEPA RM 9 with 1 test run.

II. In lieu of RM 9, the Permittee may demonstrate compliance using USEPA RM 22, with an observation period of at least 6 minutes. A determination of no visible emissions is assumed to be equivalent to 0% opacity. If visible emissions are detected using RM 22, follow-up

RM 9 monitoring must be performed within 24 hours in order to quantify the percentage of opacity from the affected emission unit.

III. As per RM 9, opacity monitoring shall be conducted by a certified opacity observer. Determination of opacity and/or compliance verification via RM 9 shall take precedence over a determination made via RM 22.

IV. Monitoring by a third party is not required unless requested in writing by the IEPA and/or USEPA.

V. If an exceedance of the limit in Condition 3.1(b)(i) or Condition 4.6.2(a)(i)(B) or Condition 4.6.2(a)(i)(C) is indicated, the Permittee shall take corrective action within 48 hours of such observation or indicate a deviation within the monitoring record. Corrective action may include, but is not limited to, maintenance and repair, and/or adjustment of operating parameters of the emission unit. If corrective action was taken, the Permittee shall perform a follow-up verification of compliance by monitoring for visible emissions within 48 hours of the initial observation.

VI. A deviation shall be recorded in the monitoring record:

1. If RM 22 is used to verify compliance with Condition 3.1(b)(i) and visible emissions are observed for more than a total of 3 minutes during the 6 minute observation period and the Permittee does not complete a RM 9 within 24 hours to quantify the percentage of opacity from the affected emission unit;

2. If RM 22 is used to verify compliance and visible emissions are observed for more than a total of 3 minutes during the 6 minute observation period and the follow-up RM 9 indicates the opacity of the emission unit exceeds the limit of Condition 3.1(b)(i) or Condition 4.6.2(a)(i)(B) or Condition 4.6.2(a)(i)(C) ;

3. If RM 9 is used to verify compliance and the affected emission unit's opacity exceeds the limit of Condition 3.1(b)(i) or Condition 4.6.2(a)(i)(B) or Condition 4.6.2(a)(i)(C); or

4. If an exceedance is observed and corrective action cannot be made within 48 hours.

Recordkeeping

B. Pursuant to Sections 39.5(7)(b), (d) and (e) of the Act, the Permittee shall collect and maintain the following records of the visible emissions observations required by Condition 4.6.2(a)(ii)(A):

I. Copies of all field data sheets as per RM 9 and/or 22 which includes but is not limited to the following:

1. Date and time the observations were performed;

2. Whether the observation was conducted during normal operation or a period of startup or shutdown;

3. Name(s) of observing personnel and their affiliation;

4. The total elapsed time for each observation, i.e., the observation period, pursuant to the method used;

5. Identification of the equipment which was observed; and

6. The findings of the observation including the presence of any visible emissions or the percentage of opacity.

II. Operational status of each affected emission unit.

III. If applicable, a description of any corrective action taken including if the corrective action took place within 48 hours of the initial observation that showed an exceedance.

IV. Dates of startups and shutdowns of Nitric Acid Plants 1 and 2.

b. i. **Particulate Matter (PM) Requirements**

A. Pursuant to 35 IAC 212.321(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see Condition 7.2(a)).

ii. Compliance Method (PM Requirements)

Monitoring

A. Pursuant to Section 39.5(7)(d) of the Act, the Permittee shall comply with the Operational and Production limits and monitoring requirements in Condition 4.6.2(d)(i) to demonstrate compliance with Condition 4.6.2(b)(i)(A).

Recordkeeping

B. Pursuant to Section 39.5(7)(d) of the Act, the Permittee shall comply with the Operational and Production recordkeeping requirements in Permit condition 4.6.2(d)(ii).

c. i. **Nitrogen Oxide (NO_x) Requirements**

A. Pursuant to 40 CFR 60.72(a)(1), the Permittee shall not cause to be discharged into the atmosphere from Nitric Acid Plant Tower 1 or 2 any gases which contain nitrogen oxides, expressed as nitrogen dioxide, in excess of 1.5 kg per metric ton of acid produced (3.0 lb/ton), the production being expressed as 100 percent nitric acid.

B. Pursuant to 35 IAC 217.381, Nitric Acid Plant 1 and 2 are subject to the following:

I. No person shall cause or allow the emission of nitrogen oxides into the atmosphere from any weak nitric acid (< 70% by weight) manufacturing process to exceed the following standards and limitations:

1. 1.5 kg of nitrogen oxides (expressed as nitrogen dioxide) per metric tonne of acid produced (100 percent acid basis) (3.0 lbs/T) [35 IAC 217.381(a)(1)]; and

2. 0.05 kg of nitrogen oxides (expressed as nitrogen dioxide) per metric tonne of acid produced (100 percent acid basis)

from any acid storage tank vents (0.1 lbs/T)[35 IAC 217.381(a)(3)].

II. No person shall cause or allow the emission of nitrogen oxides into the atmosphere from any concentrated nitric acid (≥ 70% by weight) manufacturing process to exceed the following standards and limitations:

1. 1.5 kg of nitrogen oxides (expressed as nitrogen dioxide) per metric tonne of acid produced (100 percent acid basis) (3.0 lb/ton) [35 IAC 217.381(c)(1)]; and

2. 225 ppm of nitrogen oxides (expressed as nitrogen dioxide) in any effluent gas stream emitted to the atmosphere [35 IAC 217.381(c)(2)].

C. Pursuant to Construction Permit #11030025 and Consent Decree 11-CV-50358, Nitric Acid Plant #1 shall comply with the short-term NOx emission rate of 1.0 lb/ton of 100% nitric acid produced (3-hour average, rolled hourly, excluding periods of startup, shutdown and malfunction as defined by 40 CFR 60.2, by no later than November 1, 2012. (Paragraphs 7(w), 8 and 14 of the Consent Decree). [T1]

D. Pursuant to Construction Permit #11030025 and Consent Decree 11-CV-50358, Nitric Acid Plant #1 shall comply with the long-term NOx emission rate of 0.60 lb/ton of 100% nitric acid produced (365 day rolling average, rolled daily, at all times, including periods of startup, shutdown and malfunction, by no later than November 1, 2012. (Paragraphs 7(i), 8 and 9 of the Consent Decree). [T1]

E. Pursuant to Construction Permit #14030058, the NOx emissions of Nitric Acid Plant 1 during periods other than startup and shutdown, as defined by 40 CFR 60.2, shall not exceed 4.875 pounds/hour. [T1]

F. Pursuant to Construction Permit #88090042 and #9750064, emissions from Nitric Acid Plant 1 and 2 may not exceed the following limits:

Emission Unit	NO_x Emissions (Lb/Hour)	(Ton/Year)
Plant #1	33.41	146.3
Plant #2	8.22	36.0

These limits are based on the maximum production rate of nitric acid in Condition 4.6.2(d)(i)(D) and emission calculation procedures listed in this section.

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

ii. Compliance Method (NO_x Requirements)

Monitoring

A. Pursuant to Construction Permit #11030025 and Consent Decree 11-CV-50358, the Permittee shall conduct monitoring for the NOx emissions of the affected plant in accordance with the CEMS Plan in Attachment 5 of this permit. (Paragraphs 9 and 14 of the Consent Decree). [T1]

B. Pursuant to 40 CFR 60.74(b) the owner or operator shall determine compliance with the NOx limit of condition 4.6.2(c)(i)(A) (40 CFR 60.72) as follows:

The emission rate (E) of NOx shall be computed for each run using the following equation:

$$E = (C_s \times Q_{sd}) / (P \times K)$$

Where:

E= Emission rate of NO_x as nitrogen dioxide, kg/metric ton (lb/ton) of 100 percent nitric acid.

Cs = Concentration of NO_x as nitrogen dioxide, g/dscm (lb/dscf).

Q_{sd} = Volumetric flow rate of effluent gas, dscm/hr (dscf/hr).

P= acid production rate, metric ton/hr (ton/hr) or 100 percent nitric acid.

K= Conversion factor, 1000 g/kg (1.0 lb/lb).

C. Pursuant to Section 39.5(7)(e) of the Act, compliance with the emission limits in Condition 4.6.2(c)(i)(F) shall be based on the recordkeeping requirements in Condition 4.6.2(d)(ii)(D) and the emission factors determined by the procedures in 4.6.2(c)(ii)(C), 4.6.2(c)(ii)(L) (continuous monitoring system data conversion), or the following emission factors and formulas listed below:

Emission Unit	Emission Factor (Lb/Ton)
Tower 1	2.78
Tower 2	1.02

The tower 1 NO_x emission factor is based on a stack test conducted in March 10, 1993. The Tower 2 NO_x emission factor is based on stack tests conducted in 1999.

NO_x Emissions (ton) = [(Production, ton) x (The Appropriate Emission Factor, lb/ton)]/lb/ton)]/(2000 lb/ton).

Testing

D. Upon reasonable request by the Illinois EPA, pursuant to Section 39.5(7)(d) of the Act, emission measurements shall be conducted as follows, so as to demonstrate compliance with the emission limits in Condition 4.6.2(c)(i)(F):
Measurement of nitrogen oxides shall be according to the phenol disulfonic acid method as published in 36 Fed. Reg. 15, 718, Method 7 or Method 320 [35 IAC 217.101].

E. Pursuant to Sections 39.5(7)(c) and (d) of the Act, within 5 years of the issuance of this permit, the Permittee shall have emission tests for Nitric Acid Plant 1 and Plant 2 conducted for NOx as required by Condition 4.6.2(c)(ii)(G). The Permittee shall then repeat the emission test every five years.

F. Pursuant to 40 CFR 60.74(a), in conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in 40 CFR Part 60, Appendix A or other methods and procedures as specified in 40 CFR 60.74, except as provided in 40 CFR

60.8(b). Acceptable alternative methods and procedures are given in Condition 4.6.2(c)(ii)(I).

G. Pursuant to 40 CFR 60.74(b)(1)-(3), the following test methods shall be used to determine compliance with Condition 4.6.2(c)(i)(A):

I. Method 7 or Method 320 shall be used to determine the NO_x concentration of each grab sample. Method 1 shall be used to select the sampling site, and the sampling point shall be the centroid of the stack or duct or at a point no closer to the walls than 1 m (3.28 ft). Four grab samples shall be taken at approximately 15-minute intervals. The arithmetic mean of the four sample concentrations shall constitute the run value (C_s) [40 CFR 60.74(b)(2)].

II. Method 2 shall be used to determine the volumetric flow rate (Q_{sd}) of the effluent gas. The measurement site shall be the same as for the NO_x sample. A velocity traverse shall be made once per run within the hour that the NO_x samples are taken [40 CFR 60.74(b)(3)].

III. The methods of 40 CFR 60.73(c) shall be used to determine the production rate (P) of 100 percent nitric acid for each run. Material balance over the production system shall be used to confirm the production rate [40 CFR 60.74(b)(4)].

H. Pursuant to 40 CFR 60.74(c), the owner or operator may use Method 7A, 7B, 7C, 7D, or 320 as alternatives to the reference methods and procedures specified above. If Method 7C or 7D is used, the sampling time shall be at least 1 hour.

I. Pursuant to 40 CFR 60.74(d), the owner or operator shall use the procedure in 40 CFR 60.73(b) (see also Condition 4.6.2(c)(ii)(L)) to determine the conversion factor for converting the monitoring data to the units of the standard.

J. Pursuant to Construction Permit #11030025 and Consent Decree 11-CV-50358, in addition to the requirements in the CEMS plan, for Nitric Acid Plant #1, the Permittee shall also comply with the requirements of the NSPS relating to the monitoring except that, pursuant to 40 CFR 60.13(i), this CEMS Plan will supersede the following provisions of 40 CFR Part 60, Subpart G (Appendix A of the Consent Decree, "Compliance with the NSPS: 40 CFR Part 60, Subpart G"). [T1]

I. The requirement at 40 CFR 60.73(a) (Permit Condition 4.6.2(c)(ii)(K) that the NOx stack analyzers have a span value of 500 ppm. In lieu of this, the Permittee will utilize the span values specified in Table 1 of the CEMS Plan; and

II. The requirement at 40 CFR 60.73(a)(Permit Condition 4.6.2(c)(ii)(K) that pollutant gas mixtures under Performance Specification 2 and for calibration checks under 40 CFR 60.13(d) be nitrogen dioxide (NO2). The Permittee will use calibration gases containing NO and/or NO2 as appropriate to assure accuracy of the NOx stack analyzers except where verified reference cells are used in accordance with Performance Specification.

Note: In the Consent Decree (and Construction Permit #11030025), the USEPA has approved an alternative monitoring plan as provided for by 40 CFR 60.13(i). (Paragraph 14 of the Consent Decree).

K. Pursuant to 40 CFR 60.73(a), the source owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system for measuring nitrogen oxides (NO_x) on both Nitric Acid Plant 1 and 2. The pollutant gas mixtures under Performance Specification 2 and for calibration checks under 40 CFR 60.13(d) of this part shall be nitrogen dioxide (NO_2). The span value shall be 500 ppm of NO_2. Method 7 shall be used for the performance evaluations under 40 CFR 60.13(c). Acceptable alternative methods to Method 7 are given in 40 CFR 60.74(c).

Note: In the Consent Decree (and Construction Permit #11030025), the USEPA has approved an alternative monitoring plan as provided for by 40 CFR 60.13(i) (See Condition 4.6.2(c)(ii)(J) above.

L. Pursuant to 40 CFR 60.73(b), the owner or operator shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/ton). The conversion factor shall be established by measuring emissions with the continuous monitoring system concurrent with measuring emissions with the applicable reference method tests. Using only that portion of the continuous monitoring emission data that represents emission measurements concurrent with the reference method test periods, the conversion factor shall be determined by dividing the reference method test data averages by the monitoring data averages to obtain a ratio expressed in units of the applicable standard to units of the monitoring data, i.e., kg/metric ton per ppm (lb/ton per ppm). The conversion factor shall be reestablished during any performance test under 40 CFR 60.8 or any continuous monitoring system performance evaluation under 40 CFR 60.13(c).

M. Pursuant to Construction Permit #11030041, within 120 days of a written request from the Illinois EPA, or the date agreed upon by the Illinois EPA, whichever is later, the Permittee shall have emission tests for N_2O and NO_x conducted for the Nitric Acid Plant #1 operated with the associated catalytic converter for N_2O by an approved independent testing service. [T1]

N. Pursuant to Construction Permit #13100010, within 120 days of a written request from the Illinois EPA or the date agreed upon by the Illinois EPA, whichever is later, the Permittee shall have emission tests for N_2O conducted for Nitric Acid Plant #2 with the N_2O abatement catalyst bed by a qualified independent testing service. [T1]

O. The Permittee shall comply with all the requirements of Section 7.1.

Recordkeeping

P. Pursuant to Construction Permit #11030025 and Consent Decree 11-CV-5035, the Permittee shall retain all data generated by the NOx CEMS for Nitric Acid Plant 1, including both the NO_x analyzer and stack flowmeter, including all data generated during startup, shutdown, and/or malfunction. This data shall generally be retained and made available for inspection in accordance with the requirements of the CAAPP permit for retention and availability or records (See Section 2.5). Data collected during the term of the Consent Decree shall be retained for at least three years after the termination of the Consent Decree. [T1]

Q. Pursuant to Construction Permit #11030025, the Permittee shall maintain records of the hourly NOx emissions of the affected plant, based on the continuous monitoring for NOx that it conducts for Nitric Acid Plant 1. [T1]

R. Pursuant to Construction Permit #11030025, the Permittee shall keep the following records for the Nitric Acid Plant 1 SCR system [T1]:

I. A file containing the design NOx emission rates of the SCR system with supporting documentation, and manufacturer/vendor or source specific operating and maintenance procedures, including the catalyst management plan.

II. An operating log or other records that identify periods when the affected SCR system is not in service and periods when the existing hydrogen peroxide control system is not in service.

III. A maintenance and repair log for the affected SCR system, including the date and nature of maintenance and repair activities performed, e.g., addition or replacement of a catalyst.

IV. Usage of SCR reagent on a monthly basis.

S. Pursuant to Construction Permit #11030025, The Permittee shall keep records for the NOx emissions of the Nitric Acid Plant 1 in terms of the following: [T1]

I. The three hour average of pounds NOx/Ton of 100% nitric acid produced, rolled hourly, excluding periods of startup, shutdown, and malfunction as defined by 40 CFR 60.2.

II. The 365 day rolling average of pounds NOx/Ton of 100% nitric acid produced, rolled daily, at all times including periods of startup, shutdown and malfunction.

T. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall maintain the following operating records for each NO_x monitoring system:

I. NO_x measurements as determined by the continuous monitoring system required by Condition 4.6.2(c)(ii)(K) with documentation of conversion factors and calculations, as applicable;

II. Continuous monitoring system performance testing measurements (Annual RATA/Quarterly OGA data);

III. Performance Evaluations (Annual RATA/ Quarterly CGA);

IV. Calibration checks (Daily);

V. Maintenance and adjustment performed; and

VI. Quarterly reports submitted in accordance with 35 IAC 201.405.

U. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall maintain records of the occurrence and duration of startups and shutdowns.

V. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall maintain daily records of the types of nitric acid produced (i.e. concentration of nitric acid) and production converted to 100% basis. If multiple types of nitric acid are produced in a day, the Permittee shall record the time at which production of each kind commenced and completed.

W. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall maintain records of the daily production rate and hours of operation of Plant 1 and Plant 2 separately.

X. Pursuant to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, the Nitric Acid Plant Towers 1 and 2 are subject to 40

CFR Part 64. The Permittee shall comply with the monitoring requirements of the CAM Plan described in Condition 7.7 and Table 7.7.1 and 7.7.2, pursuant to 40 CFR Part 64 as submitted in the Permittee's CAM plan application. At all times, the Owner or Operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment, pursuant to 40 CFR 64.7(a) and (b).

d. i. **Operational and Production Requirements**

A. Pursuant to Construction Permit #14030058, the Permittee shall maintain and operate the Nitric Acid Plant 1 in a manner consistent with good air pollution control practice to minimize emissions. [T1]

B. Pursuant to Construction Permit #11030025, the Permittee shall maintain and operate the Nitric Acid Plant 1 and associated affected SCR system in a manner consistent with good air pollution control practice to minimize emissions as required by the NSPS, 40 CFR 60.11(d). For this purpose, the Permittee shall operate and maintain the affected plant and affected SCR system in accordance with written procedures, which procedures may incorporate the manufacturer's specifications for operation and maintenance of this system. [T1]

C. Pursuant to Construction Permit #11030041, the Permittee shall maintain and operate Nitric Acid Plant #1 and the associated catalytic converter, if in use, in a manner consistent with good air pollution control practice to minimize emissions. For this purpose, the Permittee shall operate and maintain this plant and associated catalytic converter in accordance with written procedures, which may incorporate the manufacturer's specifications for operation and maintenance of the converter. [T1]

D. Pursuant to Construction Permits #88090042 and #97050064, operation of the affected nitric acid plants shall not exceed the following limits: [T1]

	Nitric Acid Production (100% basis)	
Emission Unit	(Ton/Hour)	(Ton/Year)
Plant #1	11.14	97,500
Plant #2	8.73	76,475

ii. Compliance Method (Operational and Production Requirements)

Monitoring

A. Pursuant to Construction Permit #11030025, the Permittee shall equip, operate, and maintain the Plant 1 SCR system with instrumentation to measure relevant operating parameters of the affected plant, including the affected SCR system to enable effective control of emissions, including parameters such as SCR reagent injection rate and flue gas temperature at the inlet of the SCR catalyst. [T1]

B. Pursuant to Construction Permit #11030025, the Permittee shall maintain records of the measurements made by the systems of condition 4.6.2(d)(ii)(A), and records of maintenance and operational activity associated with the systems. [T1]

C. Pursuant to Construction Permit #11030041, the Permittee shall operate instrumentation for temperature of the flue gas from Nitric Acid Plant #1 upstream of the associated catalytic converter. [T1]

Recordkeeping

D. Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall maintain records of emissions and operation of Nitric Acid Plant 1 and 2 including:

I. The daily production rate and hours of operation; and

II. The types of nitric acid produced (i.e. concentration of nitric acid) and production converted to 100% basis.

E. Pursuant to Construction Permit #11030041, the Permittee shall keep the following records for Nitric Acid Plant #1 and catalytic converter: [T1]

I. A file containing manufacturer/vendor or source specific operating and maintenance procedures, including a catalyst management plan.

II. Maintenance and repair log for the catalytic converter, including the date and nature of maintenance and repair activities performed, e.g., addition or replacement of a catalyst.

F. Pursuant to Construction Permit #13100010, the Permittee shall keep the following records for Nitric Acid Plant #2 [T1]:

I. A file containing the Permittee's operating and maintenance procedures for the N_2O abatement catalyst bed, including a catalyst management plan, which procedures may incorporate the manufactured vendor's recommended procedures.

II. During periods when Nitric Acid Plant #2 is operated with the N_2O abatement catalyst bed, records that address the effectiveness of the bed in reducing the N_2O emissions of the plant, which records may consist of either:

1. Data for the N_2O emissions of the plant as monitored or otherwise periodically measured; or

2. A combination of representative data for the N_2O emissions of the plant as determined by testing or monitoring and data for the operation of the plant and/or bed that correlates with the N_2O emissions of the plant or the effectiveness of the bed in reducing the plant's N_2O emissions.

3. A maintenance and repair log for the N_2O abatement catalyst bed, including the date and nature of maintenance and repair activities performed, e.g., addition or replacement of the catalyst.

3: Non-Applicability Determinations

As of the date of issuance of this permit, non-applicability of regulations of concern are not set for the Nitric Acid Plant Tower 1 or Tower 2.

4: Other Requirements

For the emission units in Condition 4.6.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act.

a. **Start-Up, Shut-Down, and Malfunction Breakdown Requirements**

i. Authorization for State Requirements

A. Start-Up Requirements

Pursuant to 35 IAC 201.149, 201.261, and 201.262, the source is authorized to operate in violation of the applicable requirements of Conditions 4.6.2(a)(i)(A) and (C) during start-up. The Permittee shall comply with all applicable requirements in Section 7.4 of this permit.

B. Malfunction Breakdown Requirements

Pursuant to 35 IAC 201.149, 201.261, and 201.262, the source is authorized to continue operation in violation of the applicable requirements of Conditions 4.6.2(a)(i)(A) and (C) during malfunction breakdown. The Permittee shall comply with all applicable requirements in Section 7.6 of this permit.

C. Shutdown Requirements

Pursuant to Section 39.5(7)(b) of the Act, the source shall comply with all applicable requirements in Section 7.5 of this permit during shutdown.

5. Reporting Requirements

The Permittee shall submit the following information pursuant to Section 39.5(7)(f) of the Act. Addresses are included in Attachment 3.

a. **Prompt Reporting**

i. A. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the IEPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows unless a different period is specified by a particular permit provision, i.e., NSPS or NESHAP requirement:

I. Requirements in Conditions 4.6.2(a)(i), 4.6.2(b)(i), 4.6.2(c)(i), and 4.6.2(d)(i).

II. Requirements in Condition 4.6.4(a)(i).

B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).

ii. The Permittee shall notify the IEPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Report required by Condition 3.5(b).

iii. The deviation reports shall contain at a minimum the following information:

A. Date and time of the deviation.

B. Emission unit(s) and/or operation involved.

C. The duration of the event.

D. Probable cause of the deviation.

E. Corrective actions or preventative measures taken.

b. **State Reporting**

i. Pursuant to Construction Permit #11030025, the Permittee shall notify the Illinois EPA when the affected SCR system on Nitric Acid Plant #1 becomes operational. [T1]

ii. Pursuant to Construction Permit #11030041, the Permittee shall notify the Illinois EPA when the catalytic converter on Nitric Acid Plant #1 becomes operational. [T1]

iii. Pursuant to Construction Permit #11030041, within one year of the initial startup of the converter on Nitric Acid Plant #1, the Permittee shall submit a performance report to the Illinois EPA Bureau of Air Compliance Section and Regional Field Office discussing the system's effectiveness in reducing N_2O emissions. [T1]

iv. Pursuant to Construction Permit #13100010, the Permittee shall notify the Illinois EPA of the date of initial startup of the N2O abatement catalyst bed on Nitric Acid Plant #2. [T1]

v. Pursuant to Construction Permit #13100010, within one year of the initial startup of the N_2O abatement catalyst bed, the Permittee shall submit a report to the Illinois EPA that reviews its effectiveness in reducing N_2O emissions. [T1]

vi. Pursuant to Construction Permit #13100010, the Permittee shall notify the Illinois EPA if operation of the N_2O abatement catalyst bed is permanently discontinued. [T1]

vii. Pursuant to Construction Permit #11030025, the following additional deviation reporting requirements apply when a deviation is observed at Nitric Acid Plant 1. [T1]

A. Except as specified in a particular provision of this permit, records for deviations from applicable requirements shall include at least the following information: the date, time and estimated duration of the deviation; a description of the deviation; the manner in which the deviation was identified, if not readily apparent; the probable cause for deviation, if known, including a description of any equipment malfunction or breakdown associated with the deviation; information on the magnitude of the deviation, including actual emissions or performance in terms of the applicable standard if measured or readily estimated; confirmation that standard procedures were followed or a description of any event-specific corrective actions taken; and a description of any preventative measures taken to prevent future occurrences, if appropriate.

B. I. Unless otherwise specified in a particular condition of this permit, if deviation(s) from requirements of this permit occurs during a reporting period, a compliance report shall be submitted no later than 45 days after the end of the reporting period. This report shall also provide a listing of all deviations for which immediate or 30-day reporting was required, but need not include copies of the previously submitted information.

II. If there are no deviations during a reporting period, the Permittee shall still submit a compliance report, which report shall state that no deviations occurred during the reporting period.

C. I. For the purpose of determining whether a deviation must be reported prior to a periodic compliance report, a deviation shall be considered to continue even if operation an emission unit is interrupted if the deviation is still present when operation of the unit is resumed.

II. When this permit requires immediate notification, such notification shall be provided by telephone and followed by facsimile or e-mail transmittal of a narrative report.

c. **Federal Reporting (for NO_x)**

i. Pursuant to 40 CFR 60.7(c) and (d), the owner or operator required to install a continuous monitoring system pursuant to 40 CFR 60 Subpart G shall submit a written report of excess emissions (as defined by 40 CFR Subpart G) to the Illinois EPA, Compliance Section for each semiannual period. This report shall be postmarked by the 30th day following the end of each six month period (Jan- Jun; Jul- Dec) and shall include the following information:

A. Duration of excess emissions due to the following:

I. Startup/Shutdown;

II. Control/equipment problems;

III. Process problems;

IV. Other known causes; and

V. Unknown causes;

B. Total duration of excess emissions.

C. Percent duration of excess emissions as function of source operating time.

D. Continuous Monitoring Systems (CMS) downtime in reporting period due to the following:

I. Monitor equipment malfunctions;

II. Non-monitor equipment malfunctions;

III. Quality assurance calibration;

IV. Other known cause;

V. Unknown causes;

VI. Total CMS downtime;

VII. Percent duration of CEMS downtime as function of source operating time; and

VIII. The Permittee shall also submit the following information in accordance with 40 CFR 60.7(c) when the total duration of excess emissions when the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time or CMS downtime is 5 percent or greater of the total operating time:

1. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions;

2. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of an affected unit. The nature and cause of any malfunction (if known), the corrective actions taken or preventative measures adopted;

3. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments; and

4. When no excess emissions have occurred or the continuous monitoring systems have not been inoperative, repaired or adjusted, such information shall be stated in the report.

ii. For purpose of reports required under 40 CFR 60.7(c), periods of excess emissions that shall be reported are defined as any 3-hour period during which the average nitrogen oxides emissions (arithmetic average of three contiguous 1-hour periods) as measured by a continuous monitoring system exceed the standard under 40 CFR 60.72(a).

4.7 Ammonium Nitrate Plant

1. Emission Units and Operations

Emission Units	Pollutants Being Regulated	Original Construction Date	Modification/ Reconstruction Date	Air Pollution Control Devices or Measures	Monitoring Devices
AN-1 Acid Neutralizer	PM/PM_{10}/$PM_{2.5}$	8/1979	N/A	Packed Bed Scrubber and Brink HV Mist Eliminator	None

2. Applicable Requirements

For the emission unit in Condition 4.7.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act.

a. i. **Opacity Requirements**

A. The AN-1 Acid Neutralizer Scrubber is subject to the opacity requirements outlined in Condition 3.1(b)(i).

B. Pursuant to 35 IAC 217.301(a)(2), visible emissions from AN-1 may not exceed 5 percent opacity.

C. Pursuant to 35 IAC 217.301(c), the limitation of 4.7.2(a)(i)(B) does not apply if the facility uses less than 100 tons of nitric acid (100 percent acid basis) or produces less than 1 ton of nitrogen oxides (expressed as nitrogen dioxide) per year.

ii. Compliance Method (Opacity Requirements)

Monitoring/Testing

A. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall conduct visible emissions observations of AN-1 according to Conditions 4.7.2(a)(ii)(A)(I) through (VI), a weekly basis.

I. The Permittee shall use USEPA RM 9 with 1 test run.

II. In lieu of RM 9, the Permittee may demonstrate compliance using USEPA RM 22, with an observation period of at least 6 minutes. A determination of no visible emissions is assumed to be equivalent to 0% opacity. If visible emissions are detected using RM 22, follow-up RM 9 monitoring must be performed within 24 hours in order to quantify the percentage of opacity from the affected emission unit.

III. As per RM 9, opacity monitoring shall be conducted by a certified opacity observer. Determination of opacity and/or compliance verification via RM 9 shall take precedence over a determination made via RM 22.

IV. Monitoring by a third party is not required unless requested in writing by the IEPA and/or USEPA.

V. If an exceedance of the limit in Condition 3.1(b)(i) or Condition 4.7.2(a)(i)(B) is indicated, the Permittee shall take corrective action within 48 hours of such observation or indicate a deviation within the monitoring record. Corrective action may include, but is not limited to, maintenance and repair, and/or adjustment of operating parameters of the emission unit. If corrective action was

taken, the Permittee shall perform a follow-up verification of compliance by monitoring for visible emissions within 48 hours of the initial observation.

VI. A deviation shall be recorded in the monitoring record:

1. If RM 22 is used to verify compliance and visible emissions are observed for more than a total of 3 minutes during the 6 minute observation period and the Permittee does not complete a RM 9 within 24 hours to quantify the percentage of opacity from the affected emission unit;

2. If RM 22 is used to verify compliance and visible emissions are observed for more than a total of 3 minutes during the 6 minute observation period and the follow-up RM9 indicates the opacity of the emission unit exceeds the limit of Condition 3.1(b)(i) or Condition 4.7.2(a)(i)(B);

3. If RM 9 is used to verify compliance a deviation shall be indicated in the monitoring record if the affected emission unit's opacity exceeds the limit of Condition 3.1(b)(i) or Condition 4.7.2(a)(i)(B); or

4. If an exceedance is observed and corrective action cannot be made within 48 hours.

Testing

B. Pursuant to Construction Permit #98020034, Within 60 days of a written request from the Illinois EPA, a visual determination of the opacity of emissions from ammonium nitrate neutralizer shall be made by an independent certified observer in Section 212.109 and 40 CFR Part 60, Appendix A, Method 9, so as to demonstrate compliance with the visible emission limit. [T1]

Recordkeeping

C. Pursuant to Sections 39.5(7)(b), (d) and (e) of the Act, the Permittee shall collect and maintain the following records of the visible emissions observations required by Condition 4.7.2(a)(ii)(A):

I. Copies of all field data sheets as per RM 9 and/or 22 which includes but is not limited to the following:

1. Date and time the observations were performed;

2. Name(s) of observing personnel and their affiliation;

3. The total elapsed time for each observation, i.e., the observation period, pursuant to the method used;

4. Identification of the equipment which was observed; and

5. The findings of the observation including the presence of any visible emissions or the percentage of opacity.

II. Operational status of each affected emission unit.

III. If applicable, a description of any corrective action taken including if the corrective action took place within 4 hours of the initial observation that showed an exceedance.

D. Pursuant to Sections 39.5(7)(b), (d) and (e) of the Act, if the Permittee relies upon the exemption of 4.7.2(a)(i)(C), the following records shall be maintained:

I. Monthly and annual usage of nitric acid (100 percent acid basis) in tons. The annual usage shall be determined as the sum of the current month and the preceding 11 months; or

II. Emissions calculations or other documentation sufficient to justify that that the annual nitrogen oxides (expressed as nitrogen dioxide) emissions do not exceed 1 ton per year.

b. i. **Particulate Matter (PM) Requirements**

A. Pursuant to 35 IAC 212.321(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see Condition 7.2(a)).

B. Pursuant to Construction Permit #98020034, emissions from unit AN-1 shall not exceed the following limits. [T1]

PM Emissions

Ton/Day	Ton/Year
0.10	27.38

These limits are based on the operating limits in Condition 4.7.2(d)(i)(A) and the maximum emission rate on a 100% ammonium nitrate basis.

Compliance with the annual limits shall be determined on a daily basis from the sum of the data for the current day plus the preceding 364 days (running 365 day total).

C. Pursuant to Construction Permit #98020034, emissions from the affected nitric acid neutralizer shall be controlled by a scrubber and mist eliminator. [T1]

ii. Compliance Method (PM Requirements)

Monitoring

A. Pursuant to 40 CFR 64, the following parameters shall be monitored on the Packed Bed Scrubber and Brink HV Mist Eliminator:

I. Scrubber liquid flow rate, measured at least once every two hours; and

II. Presence of Visual Emissions, observations using RM 22 conducted weekly.

B. Pursuant to Section 39.5(7)(d) of the Act, compliance with Condition 4.7.2(b)(i)(A) is determined by proper operation of the Packed Bed Scrubber and Brink HV Mist Eliminator, as addressed by Condition 4.7.2(b)(ii)(G) and 4.7.2(b)(ii)(L).

C. Pursuant to Construction Permit #98020034, compliance with the particulate matter annual emissions limit in Condition 4.7.2(b)(i)(B) shall be

determined as the sum of the daily emissions attributed to the ammonium nitrate neutralizer pursuant to the procedures provided in the application. [T1]

D. Pursuant to Construction Permit #98020034, compliance with the particulate matter annual limit in Condition 4.7.2(b)(i)(B) shall be determined from a running total of 365 days of ammonium nitrate neutralizer operations data collected on a daily basis. Summaries of the daily data shall be compiled according to calendar month and compliance with the total annual (12 month) emissions limit shall be determined on a monthly basis. [T1]

E. Pursuant to Construction Permit #98020034, Compliance with the particulate matter annual limit in Condition 4.7.2(b)(i)(B) shall be determined with running total of 365 days of data on a monthly basis. The particulate matter annual limit shall be determined by utilizing the historical monthly records maintained prior to the issuance of this permit and the emission calculation procedures used in conjunction with the annual emission report required pursuant to 35 Ill. Adm. Code Part 254. For example, compliance with the first 30 days shall be determined by utilizing the last 335 days (11 months) of historical data and the current data required to be maintained pursuant to this permit. [T1]

F. Pursuant to Section 39.5(7)(d) of the Act, Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 4.8.2(d)(ii)(A) and the emission factors and formulas listed below:

Activity	Pollutant	Emission Factor (Lbs/Ton)
Ammonium Nitrate Production	PM	0.25

The PM emission factor is based on engineering estimates.

Emissions (ton) = [(Throughput, ton) x (Controlled Emission Factor, lb/ton)]/(2000 lb/ton)]

G. Pursuant to Construction Permit #98020034, the Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on the pollution control equipment covered under this permit such that the pollution control equipment be kept in proper working condition and not cause a violation of the Environmental Protection Act or regulations promulgated therein. [T1]

H. Pursuant to Section 39.5(7)(d) of the Act, beginning no later than 60 days after completion of the performance testing required by condition 4.7.2(b)(ii)(I) the Permittee shall monitor the scrubber liquid flow rate of scrubber and maintain the liquid flow rate within the range identified in the operating procedures required by 4.7.2(b)(ii)(K). The liquid flow rate shall be recorded at least once every two hours.

Testing

I. Pursuant to Section 39.5(7)(c) of the Act, within 9 months of permit issuance the Permittee shall conduct performance testing using USEPA Method 5. During the performance test, the Permittee shall monitor the scrubber stack flow rate and the scrubber liquid flow rate.

J. The Permittee shall comply with all the requirements of Section 7.1.

Recordkeeping

K. Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall maintain a copy of the operating procedures for the scrubber onsite at all times. Within 60 days of completion of the performance testing required by Condition 4.7.2(b)(ii)(I), the Permittee shall update the operating procedures to include the scrubber liquid flow rate determined to demonstrate compliance with the limitations of 4.7.2(b)(i)(A)-(C).

L. Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall maintain records of the periodic maintenance of the ammonium nitrate neutralizer scrubber and mist eliminator, including:

I. Records for periodic inspection of the control devices with date, individual performing the inspection, and nature of inspection.

II. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

III. The Permittee shall keep records of monthly and annual aggregate PM emissions from the neutralizer, based on operating rates and the applicable emission factors, with supporting calculations.

IV. The following records must be kept for the monitoring of data that is collected per the requirements of 40 CFR 64.

V. The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 CFR 64.8 and any activities undertaken to implement a quality improvement plan (QIP), and other supporting information required to be maintained under this part (such as data used to document the adequacy of monitoring or records of monitoring maintenance or corrective e actions).

M. Pursuant to Construction Permit #98020034, the Permittee shall maintain maintenance records for the ammonium nitrate neutralizer scrubber and mist eliminator on the premises and these records shall be available for inspection by Illinois EPA. [T1]

N. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall maintain records of measured scrubber liquid flow rate and the results of the weekly visible emission observations.

O. Pursuant to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, the Acid Neutralizer AN-1 is subject to 40 CFR Part 64. The Permittee shall comply with the monitoring requirements of the CAM Plan described in Condition 7.7 and Table 7.7.3, pursuant to 40 CFR Part 64 as submitted in the Permittee's CAM plan application. At all times, the Owner or Operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment, pursuant to 40 CFR 64.7(a) and (b).

c. i. **Nitrogen Oxide (NO_x) Requirements**

A. Pursuant to 35 IAC 217.301(a)(1), No person shall cause or allow the emission of nitrogen oxides from AN-1 into the atmosphere from any new process producing products of organic nitrations and/or oxidations using nitric acid to exceed the following standards and limitations 2.5 kg of

nitrogen oxides (expressed as nitrogen dioxide) per metric tonne of nitric acid (100 percent acid basis) used in such new process (5.0 lbs/T).

B. The limitation of 4.7.2(c)(i)(A) does not apply if the facility uses less than 100 tons of nitric acid (100 percent acid basis) or produces less than 1 ton of nitrogen oxides (expressed as nitrogen dioxide) per year.

ii. Compliance Method (Operational and Production Requirements)

Recordkeeping

A. Pursuant to Sections 39.5(7)(d) and (e) of the Act, the Permittee shall maintain records of the monthly and annual usage of nitric acid (100 percent acid basis) in tons. The annual usage shall be determined as the sum of the current month and the preceding 11 months; or

B. Pursuant to Sections 39.5(7)(b), (d) and (e) of the Act, the Permittee shall maintain records of emissions calculations or other documentation sufficient to justify that that the annual nitrogen oxides (expressed as nitrogen dioxide) emissions do not exceed 5 tons per year, or sufficient to demonstrate that the emissions do not exceed 1 ton per year if the Permittee is claiming the exemption of 4.7.2.(c)(i)(B).

d. i. **Operational and Production Requirements**

A. Pursuant to Construction Permit #98020034, operation of the affected nitric acid neutralizer shall not exceed 600 tons per day and 219,000 tons per year of ammonium nitrate production. [T1]

ii. Compliance Method (Operational and Production Requirements)

Recordkeeping

A. Pursuant to Construction Permit #98020034, the Permittee shall keep daily production records (i.e., log sheets) for the affected nitric acid neutralizer, including production of ammonium nitrate (100% basis). [T1]

B. Pursuant to Construction Permit #98020034, the Permittee shall maintain records of the annual production (365 day running total) for the ammonium nitrate neutralizer on a 100% ammonium nitrate basis. [T1]

3. Non-Applicability Determinations

a. The nitric acid neutralizer is not subject to the New Source Performance Standards (NSPS) for Ammonium Sulfate Manufacture, 40 CFR Part 60 Subpart PP, because the affected nitric acid neutralizer does not manufacture ammonium sulfate.

b. The nitric acid neutralizer is not subject to 35 IAC Part 217, Subpart O, Nitric Acid Manufacturing Process, because the affected nitric acid neutralizer does not produce nitric acid.

4. Other Requirements

As of the date of issuance of this permit, there are no other requirements that need to be included in this Condition.

5. Reporting Requirements

The Permittee shall submit the following information pursuant to Section 39.5(7)(f) of the Act. Addresses are included in Attachment 3.

a. **Prompt Reporting**

i. A. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the IEPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows unless a different period is specified by a particular permit provision, i.e., NSPS or NESHAP requirement:

I. Requirements in Conditions 4.7.2(a)(i), 4.7.2(b)(i), 4.7.2(c)(i), and 4.7.2(d)(i).

B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).

ii. The Permittee shall notify the IEPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Report required by Condition 3.5(b).

iii. The deviation reports shall contain at a minimum the following information:

A. Date and time of the deviation.

B. Emission unit(s) and/or operation involved.

C. The duration of the event.

D. Probable cause of the deviation.

E. Corrective actions or preventative measures taken.

b. **State Reporting**

i. Pursuant to Construction Permit #98020034, The Permittee is required to condense the daily records required in Condition 4.7.2(b)(ii) and 4.7.2(d)(ii) into a monthly report. The monthly report shall include, but is not limited to, the following items, and such other items as may be appropriate to allow the Illinois EPA to review compliance with the limits in Conditions 4.7.2(b)(i)(B) and 4.7.2(d)(i)(A): [T1]

A. Daily production for the ammonium nitrate neutralizer on a 100% ammonium nitrate basis;

B. Annual production (365 day running total) for the ammonium nitrate neutralizer on a 100% ammonium nitrate basis;

C. Daily emissions calculations on a 100% ammonium nitrate basis;

D. Current annual emissions (i.e., 365 day running total); and

E. If applicable, a list of any days in which the daily or annual production and or emissions exceeded the allowable limits.

ii. In conjunction with the annual emissions reporting requirements indicated in Condition 3.5.c, the applicant shall include the following additional information:

A. Each month's daily and annual ammonium nitrate neutralizer production records for the preceding calendar year (i.e., preceding 12 months).

B. Each month's monthly and annual emission totals for the preceding calendar year (i.e., preceding 12 months).

C. If applicable, a summary of the days that the ammonium nitrate neutralizer exceeds the daily or annual emissions and/or production exceeded the limitations in Conditions 7.6.6(a), if any.

iii. If there have been no exceedances during the prior calendar year the Annual Emissions Report shall include a statement to that effect.

4.8 Nitric Acid Storage

1. Emission Units and Operations

Emission Units	Pollutants Being Regulated	Original Construction Date	Modification/ Reconstruction Date	Air Pollution Control Devices or Measures	Monitoring Devices
ME-01-0109A: Nitric Acid Storage Tank #1	NO_x	7/1978	N/A	None	None
ME-01-0109B: Nitric Acid Storage Tank #2	NO_x	6/1986	N/A	None	None
062-D-1806: Nitric Acid Storage Tank #3	NO_x	1998	N/A	None	None
D-3602: Nitric Acid Storage Tank #4	NO_x	1999	N/A	None	None
D-3604: Nitric Acid Storage Tank #5	NO_x	1999	N/A	None	None
D-3606: Nitric Acid Storage Tank #6	NO_x	1999	N/A	None	None

2. Applicable Requirements

For the emission units in Condition 4.8.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act.

a. i. **Nitrogen Oxide (NO_x) Requirements**

A. Pursuant to 35 IAC 217.381, no person shall cause or allow the emission of nitrogen oxides into the atmosphere from any new weak manufacturing process to exceed 0.05 kg of nitrogen oxides (expressed as nitrogen dioxide) per metric tonne of acid produced (100 percent acid basis) from any acid storage tank vents (0.1 lbs/T).

ii. Compliance Method (NO_x Requirements)

Monitoring

A. Pursuant to Section 39.5(7)(d) of the Act, the Permittee shall monitor the temperature of the storage tanks and maintain a temperature below 75° C (167°F) at least once per week during which the tank is storing nitric acid.

Recordkeeping

B. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall record the weekly temperature measurements of the storage tank.

C. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall record the dates during which a tank is empty.

3. Non-Applicability Determinations

a. The nitric acid storage tanks are not subject to the New Source Performance Standards (NSPS) for VOL Storage Vessels, 40 CFR Part 60 Subpart Kb, because the affected nitric acid tanks do not store volatile organic liquid.

b. The nitric acid storage tanks are not subject to 35 IAC 215 Subpart B, because the tanks are not used to store an organic material.

c. The Nitric Acid Storage Tanks listed in 4.8.1 are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the tanks do not use an add-on control device to achieve compliance with an emission limitation or standard.

4. Other Requirements

As of the date of issuance of this permit, there are no other requirements that need to be included in this Condition.

5. Reporting Requirements

The Permittee shall submit the following information pursuant to Section 39.5(7)(f) of the Act. Addresses are included in Attachment 3.

a. **Prompt Reporting**

i. A. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the IEPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows unless a different period is specified by a particular permit provision, i.e., NSPS or NESHAP requirement:

I. Requirements in Condition 4.8.2(a)(i).

B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).

ii. The Permittee shall notify the IEPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Report required by Condition 3.5(b).

iii. The deviation reports shall contain at a minimum the following information:

A. Date and time of the deviation.

B. Emission unit(s) and/or operation involved.

C. The duration of the event.

D. Probable cause of the deviation.

E. Corrective actions or preventative measures taken.

4.9 Power House Combustion Units

1. Emission Units and Operations

Emission Units	Pollutants Being Regulated	Original Construction Date	Modification/ Reconstruction Date	Air Pollution Control Devices or Measures	Monitoring Devices
S-5: Boiler (70.5 mmBtu/hr)	NO_x, SO_2, VOM, $PM/PM_{10}/PM_{2.5}$, CO	1965	N/A	None	None
S-6: Boiler (48 mmBtu/hr)	NO_x, SO_2, VOM, $PM/PM_{10}/PM_{2.5}$, CO	1967	N/A	None	None
S-7: Boiler (170 mmBtu/hr)	NO_x, SO_2, VOM, $PM/PM_{10}/PM_{2.5}$, CO	1975	N/A	None	None

2. Applicable Requirements

For the emission units in Condition 4.9.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act. In addition, the Boilers S-5, S-6, and S-7 shall comply with the applicable requirements in Section 3.1.e.

a. i. **Opacity Requirements**

A. Boilers S-5, S-6, and S-7 are subject to the opacity requirements outlined in Condition 3.1(b)(i).

ii. Compliance Method (Opacity Requirements)

A. Pursuant to Sections 39.5(7)(b), (c), and (d) of the Act, the Permittee shall demonstrate compliance with the visible emission provisions of Condition 3.1(b)(i), through periodic visible emissions observations as follows:

I. The Permittee shall conduct visible emissions observations of S-5, S-6 and S-7 according to Conditions 4.9.2(a)(ii)(A)(II) through (VII) below, on a weekly basis if the units ran for 24 hours or more during the week, until at least 4 consecutive weeks of data indicates compliance with Condition 3.1(b)(i). Thereafter, visible emissions observations may revert to a monthly basis. If no visible emissions are detected after three consecutive months of observations, the observation frequency can be reduced to a quarterly basis. Monitoring shall revert to a weekly basis if a deviation from the limit in Condition 3.1(b)(i) is detected. Monthly observations may resume after another 4 consecutive weeks of data indicates no visible emissions. Quarterly monitoring may resume after no visible emissions are detected after three consecutive months of additional monitoring.

II. The Permittee shall use USEPA RM 9.

III. In lieu of RM 9, the Permittee may demonstrate compliance using USEPA RM 22, with an observation period of at least 6 minutes. A determination of no visible emissions is assumed to be equivalent to 0% opacity. If visible emissions are detected using RM 22, follow-up RM 9 monitoring must be performed within 24 hours in order to quantify the percentage of opacity from the affected emission unit.

IV. As per RM 9, opacity monitoring shall be conducted by a certified opacity observer. Determination of opacity and/or compliance verification via RM 9 shall overrule a determination made via RM 22.

V. Monitoring by a third party is not required unless requested in writing by the IEPA and/or USEPA.

VI. If an exceedance of the limit in Condition 3.1(b)(i) is indicated, the Permittee shall take corrective action within 48 hours of such observation or indicate a deviation within the monitoring record. Corrective action may include, but is not limited to, maintenance and repair, and/or adjustment of operating parameters of the emission unit. If corrective action was taken, the Permittee shall perform a follow-up verification of compliance by monitoring for visible emissions within 48 hours of the initial observation.

VII. A deviation shall be recorded in the monitoring record:

1. If RM 22 is used to verify compliance with Condition 3.1(b)(i) and visible emissions are observed for more than a total of 3 minutes during the 6 minute observation period and the Permittee does not complete a RM 9 within 24 hours to quantify the percentage of opacity from the affected emission unit;

2. If RM 22 is used to verify compliance with Condition 3.1(b)(i) and visible emissions are observed for more than a total of 3 minutes during the 6 minute observation period and the follow-up RM9 indicates the opacity of the emission unit exceeds 30%;

3. If RM 9 is used to verify compliance with Condition 3.1(b)(i) and the affected emission unit's opacity exceeds 30%; or

4. If an exceedance is observed and corrective action cannot be made within 48 hours.

Recordkeeping

B. Pursuant to Sections 39.5(7)(b), (d) and (e) of the Act, the Permittee shall collect and maintain the following records of the visible emissions observations required by Condition 3.1(b)(ii)(A):

I. Copies of all field data sheets as per RM 9 and/or 22 which includes but is not limited to the following:

1. Date and time the observations were performed;

2. Name(s) of observing personnel and their affiliation;

3. The total elapsed time for each observation, i.e., the observation period, pursuant to the method used;

4. Identification of the equipment which was observed; and

5. The findings of the observation including the presence of any visible emissions or the percentage of opacity.

II. Operational status of each affected emission unit.

III. An indication of the monitoring frequency, i.e., weekly, monthly or quarterly.

IV. If applicable, a description of any corrective action taken including if the corrective action took place within 48 hours of the initial observation that showed an exceedance.

b. i. **Carbon Monoxide Requirements (CO)**

A. Pursuant to 35 IAC 216.121, The emission of carbon monoxide (CO) into the atmosphere from each affected boiler with actual heat input greater than 2.9 MW (10 mmBtu/hr) shall not exceed 200 ppm, corrected to 50 percent excess air.

ii. Compliance Method (CO Requirements)

Monitoring

A. Pursuant to Section 39.5(7)(d) of the Act, the Permittee shall demonstrate compliance with the requirement of 4.9.2.(b)(i)(A) through the testing performed during the annual tune-up required in Condition 4.9.2.(c)(ii)(A).

Recordkeeping

B. Pursuant to Section 39.5(7)(e) of the Act, the recordkeeping requirements of 4.9.2(c)(ii)(C) shall be considered the recordkeeping requirements for the CO emissions limitations.

C. Pursuant to Section 39.5(7)(e) of the Act, the Permittee shall maintain records demonstrating that Boilers S-5, S-6, and S-7 are only physically capable of burning natural gas. Such documentation may include manufacturer specification or boiler design specifications.

c. **40 CFR Subpart 63 DDDDD National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters**

i. Work Practice and Control Requirements

A. Pursuant to 40 CFR 63.7485, Boilers S-5, S-6 and S-7 are subject to 40 CFR Part 63, Subpart DDDDD; however, no numerical emission limits apply to the boilers. This is because the unit is designed to burn gas 1 as defined at 40 CFR 63.7575.

B. Pursuant to 40 CFR 63.7500(a)(3), at all times, Boilers S-5, S-6, and S-7 must be operated and maintained, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

C. Pursuant to 40 CFR 63.7500 and Appendix to 40 CFR Part 63, Subpart DDDDD, Table 3 (Item 3), the Permittee must conduct an annual tune-up of Boilers S-5, S-6, and S-7 as specified in condition 4.9.2(c)(ii)(A) as a work practice for all regulated emissions under 40 CFR Part 63 Subpart DDDDD.

ii. Compliance Method (Work Practice and Control Requirements)

Monitoring

A. Pursuant to 40 CFR 63.7500 and 40 CFR 63.7540(a)(10), the Permittee must conduct an annual tune-up of Boilers S-5, S-6 and S-7 to demonstrate continuous compliance with the work practice standards of 40 CFR Part 63, Subpart DDDDD, as specified below:

I. Inspect the burner, and clean or replace any components of the burner as necessary. The Permittee may delay the burner inspection until the next scheduled unit shutdown; [40 CFR 63.7540(a)(10)(i)]

II. Inspect the flame pattern and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available; [40 CFR 63.7540(a)(10)(ii)]

III. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly. The Permittee may delay the inspection until the next scheduled unit shutdown; [40 CFR 63.7540(a)(10)(iii)]

IV. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which boilers are subject; and [40 CFR 63.7540(a)(10)(iv)]

V. Measure the concentrations in the effluent stream of CO and NO_x in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made. Measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made. Measurements may be taken using portable CO and NO_x analyzers. [40 CFR 63.7540(a)(10)(v); 40 CFR 71.6(a)(3)(i)(B)]

B. Pursuant to 40 CFR 63.7540(a)(13), if either Boiler S-5, S-6 or S-7 is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup.

Recordkeeping

C. Pursuant to 40 CFR 63.7540(a)(10)(vi), the Permittee must record and maintain on-site an annual report containing the following information:

I. The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler;

II. A description of any corrective actions taken as a part of the tune-up; and

III. The type and amount of fuel oil used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.

3. Non-Applicability Determinations

a. Boilers S-5, S-6, and S-7 are not subject to the New Source Performance Standards (NSPS) for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR Part 60 Subpart Db, because the only boiler with a heat input greater than 100mm Btu/hr (S-7), was constructed prior to June 19, 1984 and has not been modified or reconstructed.

b. Boilers S-5, S-6, and S-7 are not subject to 35 IAC 217.141, because the actual heat input of each affected boiler is less than 73.2 MW (250 mmBtu/hr).

c. Boilers S-5, S-6 and S-7 are not subject to 35 IAC 217 Subpart D, Subpart E or Subpart F because they are not located in an area listed in 35 IAC 217.150.

d. Boilers S-5, S-6, and S-7 are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the boilers do not use an add-on control device to achieve compliance with an emission limitation or standard.

4. Other Requirements

As of the date of issuance of this permit, there are no other requirements that need to be included in this Condition.

5. Reporting Requirements

The Permittee shall submit the following information pursuant to Section 39.5(7)(f) of the Act. Addresses are included in Attachment 3.

a. **Prompt Reporting**

i. A. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the IEPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows unless a different period is specified by a particular permit provision, i.e., NSPS or NESHAP requirement:

I. Requirements in Conditions 4.9.2(a)(i), 4.9.2(b)(i), and 4.9.2(c)(i).

B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).

ii. The Permittee shall notify the IEPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Report required by Condition 3.5(b).

iii. The deviation reports shall contain at a minimum the following information:

A. Date and time of the deviation.

B. Emission unit(s) and/or operation involved.

C. The duration of the event.

D. Probable cause of the deviation.

E. Corrective actions or preventative measures taken.

b. **Federal Reporting**

Pursuant to 40 CFR 63.7550(a) and Table 9 to 40 CFR Part 63 Subpart DDDDD, the Permittee shall submit compliance reports annually for the boilers according to the requirements in 40 CFR 63.7550(b). The compliance reports must contain the following:

i. Information required in 40 CFR 63.7550(c)(1) through (5), including:

A. Company and Facility name and address.

B. Boiler information, emissions limitations, and operating parameter limitations.

C. Date of report and beginning and ending dates of the reporting period.

D. Date of the most recent tune-up for the boilers and the date of the most recent boiler inspection if it was not done annually or biennially and was delayed until the next scheduled or unscheduled unit shutdown.

E. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

ii. If there are no deviations from the requirements for work practice standards for periods of startup and shutdown, a statement that there were no deviations from the work practice standards during the reporting period.

iii. If the Permittee has a deviation from a work practice standard for periods of startup and shutdown, during the reporting period, the report must additionally contain the information in 40 CFR 63.7550(d) as follows:

A. A description of the deviation and which work practice standard from which the Permittee deviated.

B. Information on the number, duration, and cause of deviations (including unknown cause), as applicable, and the corrective action taken.

C. If the deviation occurred during an annual or biennial performance test, provide the date the annual or biennial performance test was completed.

4.10 Petroleum Storage Tanks

1. Emission Units and Operations

Emission Units	Pollutants Being Regulated	Original Construction Date	Modification/ Reconstruction Date	Air Pollution Control Devices or Measures	Monitoring Devices
Gasoline Storage Tank (881 Gallons)	VOM	~1991	Unknown	None	None
Diesel Storage Tank (1000 Gallons)	VOM	~1991	Unknown	None	None

2. Applicable Requirements

For the emission units in Condition 4.11.1 above, the Permittee shall comply with the following applicable requirements pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act.

a. i. **Volatile Organic Material (VOM) Requirements**

A. Pursuant to 35 IAC 215.301, No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 IAC 215.302 and the following exception: if no odor nuisance exists this limitation shall apply only to photochemically reactive material.

ii. Compliance Method (VOM Requirements)

Recordkeeping

A. Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall maintain the identification and properties of each organic liquid stored at the source as related to emissions, i.e., vapor pressure and molecular weight.

B. Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall maintain records of the following items on an annual basis:

I. The throughput of each organic liquid through the tank (gallons/year); and

II. The VOM emissions attributable to each organic liquid stored at the source, tons/year, with supporting calculations, calculated utilizing an approved USEPA methodology, such as the current version of the TANKS program.

b. i. **Work Practice and Control Requirements**

A. Pursuant to 35 IAC 215.122(b), The affected storage tank shall be equipped with a permanent submerged loading pipe, submerged fill, or an equivalent device approved by the Agency according to the provisions of 35 Ill. Adm. Code 201 or unless such tank is a pressure tank as described in Section 215.121(a) or is fitted with a recovery system as described in Section 215.121(b)(2). However, if no odor nuisance exists the limitations of this requirement shall only apply to the loading of volatile organic liquid with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).

ii. Compliance Method (Work Practice Requirements)

Recordkeeping

A. Pursuant to Section 39.5(7)(b) of the Act, The Permittee shall maintain records indicating compliance with 35 IAC 215.122 (e.g., the presence of a submerged loading pipe) for the affected storage tank. These records shall be kept up to date and be retained until the tank is removed from the source.

B. Pursuant to Section 39.5(7)(b) of the Act, the Permittee shall maintain the identification and properties of each organic liquid stored at the source as related to emissions, i.e., vapor pressure and molecular weight.

3. Non-Applicability Determinations

a. The petroleum storage tanks are not subject to the New Source Performance Standards (NSPS) for Volatile Organic Liquid Storage Vessels, 40 CFR Part 60 Subpart K or Ka because the tanks have a capacity of less than 40,000 gallons. The petroleum storage tanks are not subject to the New Source Performance Standards (NSPS) for Volatile Organic Liquid Storage Vessels, 40 CFR Part 60 Subpart Kb because the tanks have a capacity of less than 75 cubic meters.

b. The petroleum storage tanks are not subject to 35 IAC 215.583, because this source is not located in a county listed in 35 IAC 215.583(b)(4).

c. The petroleum storage tanks are not subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the units do not use an add-on control device to achieve compliance with an emission limitation or standard.

4. Other Requirements

As of the date of issuance of this permit, there are no other requirements that need to be included in this Condition.

5. Reporting Requirements

The Permittee shall submit the following information pursuant to Section 39.5(7)(f) of the Act. Addresses are included in Attachment 3.

a. **Prompt Reporting**

i. A. Pursuant to Section 39.5(7)(f)(ii) of the Act, the Permittee shall promptly notify the IEPA, Air Compliance Section, within 30 days of deviations from applicable requirements as follows unless a different period is specified by a particular permit provision, i.e., NSPS or NESHAP requirement:

I. Requirements in Conditions 4.10.2(a)(i) and 4.10.2(b)(i).

B. All such deviations shall be summarized and reported as part of the Semiannual Monitoring Report required by Condition 3.5(b).

ii. The Permittee shall notify the IEPA, Air Compliance Section, of all other deviations as part of the Semiannual Monitoring Report required by Condition 3.5(b).

iii. The deviation reports shall contain at a minimum the following information:

A. Date and time of the deviation.

B. Emission unit(s) and/or operation involved.

C. The duration of the event.

D. Probable cause of the deviation.

E. Corrective actions or preventative measures taken.

Section 5 - Additional State and Federal Requirements

1. Construction Permits

This Section is reserved for Title I requirements not specified in Sections 3 or 4. As of the date of issuance of this permit, there are no Title I requirements that need to be separately addressed in this Section.

2. Federal Requirements

1. 40 CFR Part 65, Subpart F--Equipment Leaks

Pursuant to 40 CFR 63.2480(d), the provisions of this section do not apply to bench-scale processes, regardless of whether the processes are located at the same plant site as a process subject to the provisions of this subpart.

a. Equipment identification.

a. Pursuant to 40 CFR 65.103(a), equipment subject to this subpart shall be identified. Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, by designation of process unit boundaries, by some form of weatherproof identification, or by other appropriate methods.

b. Pursuant to 40 CFR 65.103(b) and 40 CFR 63.2480(c)(3), additional equipment identification. In addition to the general identification required by paragraph (a) of this section, equipment subject to any of the provisions in 40 CFR 65.106 through 65.115 shall be specifically identified as required in paragraphs (b)(1) through (6) of this section, as applicable. Paragraph (b) of this section does not apply to an owner or operator of a batch product-process who elects to pressure test the batch product-process equipment train pursuant to 40 CFR 65.117.

1. *Routed to a process or fuel gas system or equipped with a closed vent system and control device.* Identify the equipment that the owner or operator elects to route to a process or fuel gas system or equip with a closed vent system and control device under the provisions of 40 CFR 65.107(e)(3) (pumps in light liquid service), 40 CFR 65.109(e)(3) (agitators), 40 CFR 65.111(d) (pressure relief devices in gas/vapor service), 40 CFR 65.112(e) (compressors), or 40 CFR 65.118 (alternative means of emission limitation for enclosed-vented process units).

2. *Pressure relief devices.* Identify the pressure relief devices equipped with rupture disks under the provisions of 40 CFR 65.111(e).

3. Instrumentation systems. Identify instrumentation systems subject to the provisions of this subpart. Individual components in an instrumentation system need not be identified.

4. *Equipment in service less than 300 hours per calendar year.* Identify either by list, location (area or group), or other method, equipment in regulated material service less than 300 hours per calendar year within a process unit subject to the provisions of this subpart.

c. Pursuant to 40 CFR 65.103(c), *Special equipment designations: Equipment that is unsafe or difficult-to-monitor*

1. *Designation and criteria for unsafe-to-monitor.* Valves meeting the provisions of 40 CFR 65.106(e)(1), pumps meeting the provisions of 40 CFR 65.107(e)(6), connectors meeting the provisions of 40 CFR 65.108(e)(1), and agitators meeting the provisions of 40 CFR 65.109(e)(7) may be designated unsafe-to-monitor if the owner or operator determines that monitoring personnel would be exposed to an immediate danger as a consequence of complying with the monitoring requirements of this subpart.

2. *Designation and criteria for difficult-to-monitor.* Valves meeting the provisions of 40 CFR 65.106(e)(2) may be designated difficult-to-monitor if the provisions of paragraph (c)(2)(i) of this section apply. Agitators meeting the provisions of 40 CFR 65.109(e)(5) may be designated difficult-to-monitor if the provisions of paragraph (c)(2)(ii) of this section apply.

   i. *Valves.* The owner or operator of the valve:

      A. Determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters (7 feet) above a support surface, or it is not accessible in a safe manner when it is in regulated material service, and the process unit within which the valve is located is a regulated source for which the owner or operator commenced construction, reconstruction, or modification prior to the compliance date of the referencing subpart; or

      B. Designates less than 3 percent of the total number of valves within the process unit as difficult-to-monitor.

   ii. *Agitators.* The owner or operator determines that the agitator cannot be monitored without elevating the monitoring personnel more than 2 meters (7 feet) above a support surface, or it is not accessible in a safe manner when it is in regulated material service.

3. *Identification of unsafe or difficult-to-monitor equipment.* The owner or operator shall record the identity of equipment designated as unsafe-to-monitor according to the provisions of paragraph (c)(1) of this section and the planned schedule for monitoring this equipment. The owner or operator shall record the identity of equipment designated as difficult-to-monitor according to the provisions of paragraph (c)(2) of this section, the planned schedule for monitoring this equipment, and an explanation why the equipment is difficult-to-monitor.

4. *Written plan requirements.*

   i. The owner or operator of equipment designated as unsafe-to-monitor according to the provisions of paragraph (c)(1) of this section shall have a written plan that requires monitoring of the equipment as frequently as practical during safe-to-monitor times, but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in 40 CFR 65.105 if a leak is detected.

   ii. The owner or operator of equipment designated as difficult-to-monitor according to the provisions of paragraph (c)(2) of this section shall have a written plan that requires monitoring of the equipment at least once per calendar year and repair of the equipment according to the procedures in 40 CFR 65.105 if a leak is detected.

d. Pursuant to 40 CFR 65.103(d) *Special equipment designations: Equipment that is unsafe to repair*

1. *Designation and criteria.* Connectors subject to the provisions of 40 CFR 65.105(e) may be designated unsafe to repair if the owner or operator determines that repair personnel would be exposed to an immediate danger as a consequence of complying with the repair requirements of this subpart, and if the connector will be repaired before the end of the next process unit shutdown as specified in 40 CFR 63.105(e).

2. *Identification of equipment.* The identity of connectors designated as unsafe to repair and an explanation why the connector is unsafe to repair shall be recorded.

e. Pursuant to 40 CFR 65.103(e) *Special equipment designations: Compressors operating with an instrument reading of less than 500 parts per million.* Identify the compressors that the owner or operator elects to designate as operating with an instrument reading of less than 500 parts per million under the provisions of 40 CFR 65.112(f).

f. Pursuant to 40 CFR 65.103(f) *Special equipment designations: Equipment in heavy liquid service.* The owner or operator of equipment in heavy liquid service shall comply with the requirements of either paragraph (f)(1) or (2) of this section as provided in paragraph (f)(3) of this section.

1. Retain information, data, and analyses used to determine that a piece of equipment is in heavy liquid service.

2. When requested by the Administrator, demonstrate that the piece of equipment or process is in heavy liquid service.

3. A determination or demonstration that a piece of equipment or process is in heavy liquid service shall include an analysis or demonstration that the process fluids do not meet the definition of "in light liquid service." Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or process knowledge.

b. <u>Instrument and sensory monitoring for leaks.</u>

a. Pursuant to 40 CFR 65.104(a) *Monitoring for leaks.* The owner or operator of a regulated source subject to this subpart shall monitor regulated equipment as specified in paragraph (a)(1) of this section for instrument monitoring and paragraph (a)(2) of this section for sensory monitoring.

1. *Instrument monitoring for leaks.*

i. Valves in gas/vapor service and in light liquid service shall be monitored pursuant to 40 CFR 65.106(b).

ii. Pumps in light liquid service shall be monitored pursuant to 40 CFR 65.107(b).

iii. Connectors in gas/vapor service and in light liquid service shall be monitored pursuant to 40 CFR 65.108(b).

iv. Agitators in gas/vapor service and in light liquid service shall be monitored pursuant to 40 CFR 65.109(b).

v. Pressure relief devices in gas/vapor service shall be monitored pursuant to 40 CFR 65.111(b) and (c).

vi. Compressors designated to operate with an instrument reading less than 500 parts per million as described in 40 CFR 65.103(e) shall be monitored pursuant to 40 CFR 65.112(f).

2. *Sensory monitoring for leaks.*

i. Pumps in light liquid service shall be observed pursuant to 40 CFR 65.107(b)(4) and (e)(1)(v).

ii. Agitators in gas/vapor service and in light liquid service shall be observed pursuant to 40 CFR 65.109(b)(3) or (e)(1)(v).

b. Pursuant to 40 CFR 65.104(b) *Instrument monitoring methods.* Instrument monitoring as required under this subpart shall comply with the requirements specified in paragraphs (b)(1) through (6) of this section.

1. *Monitoring method.* Monitoring shall comply with Method 21 of appendix A of 40 CFR part 60, except as otherwise provided in this section.

2. *Detection instrument performance criteria.*

i. Except as provided for in paragraph (b)(2)(ii) of this section, the detection instrument shall meet the performance criteria of Method 21 of appendix A of 40 CFR part 60, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the representative composition of the process fluid not each individual organic compound in the stream. For process streams that contain nitrogen, air, water, or other inerts that are not organic hazardous air pollutants or volatile organic compounds, the response factor shall be determined on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted. Maintain the record specified by 40 CFR 65.119(b)(8).

ii. If no instrument is available at the plant site that will meet the performance criteria specified in paragraph (b)(2)(i) of this section, the instrument readings may be adjusted by multiplying by the representative response factor of the process fluid calculated on an inert-free basis as described in paragraph (b)(2)(i) of this section.

3. *Detection instrument calibration procedure.* The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of appendix A of 40 CFR part 60.

4. *Detection instrument calibration gas.* Calibration gases shall be zero air (less than 10 parts per million of hydrocarbon in air) and the gases specified in paragraph (b)(4)(i) of this section except as provided in paragraph (b)(4)(ii) of this section.

i. Mixtures of methane in air at a concentration no more than 2,000 parts per million greater than the leak definition concentration of the equipment monitored. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 parts per million above the concentration specified as a leak, and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 parts per million. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring.

ii. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in paragraph (b)(2)(i) of this section. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.

5. *Monitoring performance.* Monitoring shall be performed when the equipment is in regulated material service or is in use with any other detectable material.

6. *Monitoring data.* Monitoring data obtained prior to the regulated source becoming subject to the referencing subpart that do not meet the criteria specified in paragraphs (b)(1) through (5) of this section may still be used to qualify initially for less frequent monitoring under the provisions in 40 CFR 65.106(a)(2), (b)(3), or (b)(4) for valves or 40 CFR 65.108(b)(3) for connectors, provided the departures from the criteria or from the specified monitoring frequency of 40 CFR 65.106(b)(3) or (4) are minor and do not significantly affect the quality of the data. Examples of minor departures are monitoring at a slightly different frequency (such as every 6 weeks instead of monthly or quarterly), following the performance criteria of section 3.1.2(a) of Method 21 of appendix A of 40 CFR part 60 instead of paragraph (b)(2) of this section, or monitoring using a different leak definition if the data would indicate the presence or absence of a leak at the concentration specified in this subpart. Failure to use a calibrated instrument is not considered a minor departure.

c. Pursuant to 40 CFR 65.104(c) *Instrument monitoring readings and background adjustments.* The owner or operator may elect to adjust or not to adjust the instrument readings for background. If an owner or operator elects not to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (b)(1) through (5) of this section. In such cases, all instrument readings shall be compared directly to the applicable leak definition for the monitored equipment to determine whether there is a leak or to determine compliance with 40 CFR 65.111(b) (pressure relief devices) or 40 CFR 65.112(f) (alternative compressor standard). If an owner or operator elects to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the following procedures:

1. The requirements of paragraphs (b)(1) through (5) of this section shall apply.

2. The background level shall be determined using the procedures in Method 21 of appendix A of 40 CFR part 60.

3. The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21 of appendix A of 40 CFR part 60.

4. The arithmetic difference between the maximum concentration indicated by the instrument and the background level shall be compared to the applicable leak definition for the monitored equipment to determine whether there is a leak or to determine compliance with 40 CFR 65.111(b) (pressure relief devices) or 40 CFR 65.112(f) (alternative compressor standard).

d. Pursuant to 40 CFR 65.104(e) *Sensory monitoring methods.* Sensory monitoring consists of visual, audible, olfactory, or any other detection method used to determine a potential leak to the atmosphere.

e. Pursuant to 40 CFR 65.104(e) *Leaking equipment identification and records.*

1. When each leak is detected, a weatherproof and readily visible identification shall be attached to the leaking equipment.

2. When each leak is detected, the information specified in paragraphs (e)(2)(i) and (ii) of this section shall be recorded and kept pursuant to 40 CFR 65.4(a), except the information for valves complying with the 2-year monitoring period allowed under 40 CFR 65.106(b)(3)(v), and connectors complying with the 8-year monitoring period allowed under 40 CFR 65.108(b)(3)(iii) shall be kept 5 years beyond the date of the last use of the information to set a monitoring period.

i. The instrument, the equipment identification, and the instrument operator's name, initials, or identification number if a leak is detected or confirmed by instrument monitoring.

ii. The date the leak was detected.

c. **Leak repair**

a. Pursuant to 40 CFR 65.105(a) *Leak repair schedule.* The owner or operator shall repair each leak detected as soon as practical but not later than 15 calendar days after it is detected except as provided in paragraph (d) or (e) of this section. A first attempt at repair as defined in subpart A of this part shall be made no later than 5 calendar days after the leak is detected. First attempt at repair for pumps includes, but is not limited to, tightening the packing gland nuts and/or ensuring that the seal flush is operating at design pressure and temperature. First attempt at repair for valves includes, but is not limited to, tightening the bonnet bolts, and/or replacing the bonnet bolts, and/or tightening the packing gland nuts, and/or injecting lubricant into the lubricated packing.

b. Pursuant to 40 CFR 65.104(c) *Leak identification removal*

1. *Valves and connectors.* The leak identification on a valve in gas/vapor or light liquid service may be removed after it has been monitored as specified in 40 CFR 65.106(d)(2) and no leak has been detected during that monitoring. The leak identification on a connector in gas/vapor or light liquid service may be removed after it has been monitored as specified in 40 CFR 65.108(b)(3)(iv) and no leak has been detected during that monitoring.

2. *Other equipment.* The identification that has been placed pursuant to 40 CFR 65.104(e)(1) on equipment determined to have a leak, except for a valve or for a connector that is subject to the provisions of 40 CFR 65.108(b)(3)(iv), may be removed after it is repaired.

c. Pursuant to 40 CFR 65.105(d) *Delay of repair.* Delay of repair is allowed for any of the conditions specified in paragraphs (d)(1) through (5) of this section. The owner or operator shall maintain a record of the facts that explain any delay of repairs and, where appropriate, why repair within 15 days was technically infeasible without a process unit shutdown.

1. Delay of repair of equipment for which leaks have been detected is allowed if repair within 15 days after a leak is detected is technically infeasible without a process unit shutdown. Repair of this equipment shall occur as soon as practical, but no later than the end of the next process unit shutdown, except as provided in paragraph (d)(5) of this section.

2. Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in regulated material service.

3. Delay of repair for valves, connectors, and agitators is also allowed if the following provisions are met:

i. The owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair; and

ii. When repair procedures are affected, the purged material is collected and routed to a process or fuel gas system or is collected and destroyed or recovered in a control device complying with 40 CFR 65.115.

4. Delay of repair for pumps is also allowed if the provisions of paragraphs (d)(4)(i)(ii) of this section are met.

i. Repair requires replacing the existing seal design with a new system that the owner or operator has determined under the provisions of 40 CFR 65.116(d) will provide better performance or one of the following specifications are met:

A. A dual mechanical seal system that meets the requirements of 40 CFR 65.107(e)(1) will be installed;

B. A pump that meets the requirements of 40 CFR 65.107(e)(2) will be installed; or

C. A system that routes emissions to a process or a fuel gas system or a closed vent system and control device that meets the requirements of 40 CFR 65.107(e)(3) will be installed.

ii. Repair is completed as soon as practical but not later than 6 months after the leak was detected.

5. Delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown,

and valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit shutdown will not be allowed unless the third process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

e. Pursuant to 40 CFR 65.105(e) *Unsafe-to-repair: Connectors.* Any connector that is designated as described in 40 CFR 65.103(d) as an unsafe-to-repair connector is exempt from the requirements of 40 CFR 65.108(d) and paragraph (a) of this section if the provisions of 40 CFR 65.103(d) are met.

f. Pursuant to 40 CFR 65.105(f) *Leak repair records.* For each leak detected, the information specified in paragraphs (f)(1) through (5) of this section shall be recorded and kept pursuant to 40 CFR 63.2525.

1. The date of first attempt to repair the leak.

2. The date of successful repair of the leak.

3. Maximum instrument reading measured by Method 21 of appendix A of 40 CFR part 60 at the time the leak is successfully repaired or determined to be nonrepairable.

4. "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak as specified in the paragraphs (f)(4)(i) and (ii) of this section.

i. The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup/shutdown/malfunction plan required by 40 CFR 65.6 for the source or may be part of a separate document that is maintained at the plant site. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

ii. If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked onsite before depletion and the reason for depletion.

5. Dates of process unit shutdowns that occur while the equipment is unrepaired.

d. **Standards: Valves in gas/vapor service and in light liquid service.**

a. Pursuant to 40 CFR 65.106(b) and 40 CFR 63.2480(c)(6) *Compliance schedule.*

1. The owner or operator shall comply with this section no later than May 10, 2008.

2. The use of monitoring data generated before the regulated source became subject to the referencing subpart to qualify initially for less frequent monitoring is governed by the provisions of 40 CFR 65.104(b)(6).

b. Pursuant to 40 CFR 65.106(b) Leak detection. Unless otherwise specified in 40 CFR 65.102(b) or paragraph (e) of this section, the owner or operator shall monitor all

valves at the intervals specified in paragraphs (b)(3) and/or (b)(4) of this section and shall comply with all other provisions of this section.

1. *Monitoring method.* The valves shall be monitored to detect leaks by the method specified in 40 CFR 65.104(b) and (c).

2. Instrument reading that defines a leak. The instrument reading that defines leak is 500 parts per million or greater.

3. Monitoring frequency. The owner or operator shall monitor valves for leaks at the intervals specified in paragraphs (b)(3)(i) through (v) of this section and shall keep the record specified in paragraph (b)(3)(vi) of this section.

   i. If at least the greater of two valves or 2 percent of the valves in a process unit leak, as calculated according to paragraph (c) of this section, the owner or operator shall monitor each valve once per month.

   ii. At process units with less than the greater of two leaking valves or 2 percent leaking valves, the owner or operator shall monitor each valve once each quarter except as provided in paragraphs (b)(3)(iii) through (v) of this section. Monitoring data generated before the regulated source became subject to the referencing subpart and meeting the criteria of either 40 CFR 65.104(b)(1) through (5) or 40 CFR 65.104(b)(6) may be used to qualify initially for less frequent monitoring under paragraphs (b)(3)(iii) through (v) of this section.

   iii. At process units with less than 1 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 quarters.

   iv. At process units with less than 0.5 percent leaking valves, the owner or operator may elect to monitor each valve once every 4 quarters.

   v. At process units with less than 0.25 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 years.

   vi. The owner or operator shall keep a record of the monitoring schedule for each process unit.

4. Valve subgrouping. For a process unit or a group of process units to which this subpart applies, an owner or operator may choose to subdivide the valves in the applicable process unit or group of process units and apply the provisions of paragraph (b)(3) of this section to each subgroup. If the owner or operator elects to subdivide the valves in the applicable process unit or group of process units, then the provisions of paragraphs (b)(4)(i) through (viii) of this section apply.

   i. The overall performance of total valves in the applicable process unit or group of process units to be subdivided shall be less than 2 percent leaking valves, as detected according to paragraphs (b)(1) and (2) of this section and as calculated according to paragraphs (c)(1)(ii) and (c)(2) of this section.

   ii. The initial assignment or subsequent reassignment of valves to subgroups shall be governed by the following provisions:

A. The owner or operator shall determine which valves are assigned to each subgroup. Valves with less than 1 year of monitoring data or valves not monitored within the last 12 months must be placed initially into the most frequently monitored subgroup until at least 1 year of monitoring data have been obtained.

B. Any valve or group of valves can be reassigned from a less frequently monitored subgroup to a more frequently monitored subgroup provided that the valves to be reassigned were monitored during the most recent monitoring period for the less frequently monitored subgroup. The monitoring results must be included with that less frequently monitored subgroup's associated percent leaking valves calculation for that monitoring event.

C. Any valve or group of valves can be reassigned from a more frequently monitored subgroup to a less frequently monitored subgroup provided that the valves to be reassigned have not leaked for the period of the less frequently monitored subgroup (for example, for the last 12 months, if the valve or group of valves is to be reassigned to a subgroup being monitored annually). Nonrepairable valves may not be reassigned to a less frequently monitored subgroup.

iii. The owner or operator shall determine every 6 months if the overall performance of total valves in the applicable process unit or group of process units is less than 2 percent leaking valves and so indicate the performance in the next periodic report. If the overall performance of total valves in the applicable process unit or group of process units is 2 percent leaking valves or greater, the owner or operator shall no longer subgroup and shall revert to the program required in paragraphs (b)(1) through (3) of this section for that applicable process unit or group of process units. An owner or operator can again elect to comply with the valve subgrouping procedures of paragraph (b)(4) of this section if future overall performance of total valves in the process unit or group of process units is again less than 2 percent. The overall performance of total valves in the applicable process unit or group of process units shall be calculated as a weighted average of the percent leaking valves of each subgroup according to Equation 106-1 of this section:

$$\%V_{LO} = \frac{\sum_{i=1}^{n}(\%V_{Li} \times V_i)}{\sum_{i=1}^{n} V_i} \quad \text{(Eq. 106-1)}$$

Where:

%VLO = Overall performance of total valves in the applicable process unit or group of process units.

%VLi = Percent leaking valves in subgroup i, most recent value calculated according to the procedures in paragraphs (c)(1)(ii) and (c)(2) of this section.

Vi = Number of valves in subgroup i.

n = Number of subgroups.

iv. The owner or operator shall maintain the following records:

A. Which valves are assigned to each subgroup;

B. Monitoring results and calculations made for each subgroup for each monitoring period;

C. Which valves are reassigned, the last monitoring result prior to reassignment, and when they were reassigned; and

D. The results of the semiannual overall performance calculation required in paragraph (b)(4)(iii) of this section.

v. The owner or operator shall notify the Administrator no later than 30 days prior to the beginning of the next monitoring period of the decision to begin or end subgrouping valves. The notification shall identify the participating process units and the number of valves assigned to each subgroup, if applicable. The notification may be included in a periodic report if the periodic report is submitted no later than 30 days prior to the beginning of the next monitoring period.

vi. The owner or operator shall submit in the periodic reports the following information:

A Total number of valves in each subgroup; and

B Results of the semiannual overall performance calculation required by paragraph (b)(4)(iii) of this section.

vii. To determine the monitoring frequency for each subgroup, the calculation procedures of paragraph (c)(2) of this section shall be used.

viii. Except for the overall performance calculations required by paragraphs (b)(4)(i) and (iii) of this section, each subgroup shall be treated as if it were a separate process unit for the purposes of applying the provisions of this section.

c. Pursuant to 40 CFR 65.105(c) *Percent leaking valves calculation*

1. *Calculation basis and procedures.*

i. The owner or operator shall decide no later than the implementation date of this part or upon revision of an operating permit whether to calculate percent leaking valves on a process unit or group of process units basis. Once the owner or operator has decided, all subsequent percentage calculations shall be made on the same basis, and this shall be the basis used for comparison with the subgrouping criteria specified in paragraph (b)(4)(i) of this section.

ii. The percent leaking valves for each monitoring period for each process unit or valve subgroup, as provided in paragraph (b)(4) of this section, shall be calculated using Equation 106-2 of this section:

$$\%V_L = (V_L / V_T) \times 100 \qquad (Eq.\ 106\text{-}2)$$

Where:

$\%V_L$ = Percent leaking valves.

V_L = Number of valves found leaking, including those valves found leaking pursuant to paragraphs (d)(2)(iii)(A) and (d)(2)(iii)(B) of this section and excluding nonrepairable valves as provided in paragraph (c)(3) of this section.

V_T = The sum of the total number of valves monitored.

2. *Calculation for monitoring frequency.* When determining monitoring frequency for each process unit or valve subgroup subject to monthly, quarterly, or semiannual monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last two monitoring periods. When determining monitoring frequency for each process unit or valve subgroup subject to annual or biennial (once every 2 years) monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last three monitoring periods.

3. *Nonrepairable valves.*

i. Nonrepairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and nonrepairable and as required to comply with paragraph (c)(3)(ii) of this section. Otherwise, a number of nonrepairable valves (identified and included in the percent leaking valves calculation in a previous period) up to a maximum of 1 percent of the total number of valves in regulated material service at a process unit may be excluded from calculation of percent leaking valves for subsequent monitoring periods.

ii. If the number of nonrepairable valves exceeds 1 percent of the total number of valves in regulated material service at a process unit, the number of nonrepairable valves exceeding 1 percent of the total number of valves in regulated material service shall be included in the calculation of percent leaking valves.

d. Pursuant to 40 CFR 65.106(d) *Leak repair.*

1. If a leak is determined pursuant to paragraph (b), (e)(1), or (e)(2) of this section, then the leak shall be repaired using the procedures in 40 CFR 65.105, as applicable.

2. After a leak determined under paragraph (b) or (e)(2) of this section has been repaired, the valve shall be monitored at least once within the first 3 months after its repair. The monitoring required by paragraph (d) of this

section is in addition to the monitoring required to satisfy the definition of repair.

i. The monitoring shall be conducted as specified in 40 CFR 65.104(b) and (c), as appropriate, to determine whether the valve has resumed leaking.

ii. Periodic monitoring required by paragraph (b) of this section may be used to satisfy the requirements of paragraph (d) of this section if the timing of the monitoring period coincides with the time specified in paragraph (d) of this section. Alternatively, other monitoring may be performed to satisfy the requirements of paragraph (d) of this section regardless of whether the timing of the monitoring period for periodic monitoring coincides with the time specified in paragraph (d) of this section.

iii. If a leak is detected by monitoring that is conducted under paragraph (d)(2) of this section, the owner or operator shall comply with the following provisions to determine whether that valve must be counted as a leaking valve for purposes of paragraph (c)(1)(ii) of this section:

A. If the owner or operator elected to use periodic monitoring required by paragraph (b) of this section to satisfy the requirements of paragraph (d)(2) of this section, then the valve shall be counted as a leaking valve.

B. If the owner or operator elected to use other monitoring, prior to the periodic monitoring required by paragraph (b) of this section, to satisfy the requirements of paragraph (d)(2) of this section, then the valve shall be counted as a leaking valve unless it is repaired and shown by periodic monitoring not to be leaking.

e. Pursuant to 40 CFR 65.106(e) *Special provisions for valves*

1. *Unsafe-to-monitor valves.* Any valve that is designated as described in 40 CFR 65.103(c)(1) as an unsafe-to-monitor valve is exempt from the requirements of paragraph (b) and (d)(2) of this section, and the owner or operator shall monitor the valve according to the written plan specified in 40 CFR 65.103(c)(4).

2. *Difficult-to-monitor valves.* Any valve that is designated as described in 40 CFR 65.103(c)(2) as a difficult-to-monitor valve is exempt from the requirements of paragraph (b) of this section, and the owner or operator shall monitor the valve according to the written plan specified in 40 CFR 65.103(c)(4).

3. *Less than 250 valves.* Any equipment located at a plant site with fewer than 250 valves in regulated material service is exempt from the requirements for monthly monitoring specified in paragraph (b)(3)(i) of this section. Instead, the owner or operator shall monitor each valve in regulated material service for leaks once each quarter or comply with paragraph (b)(3)(iii), (iv), or (v) of this section except as provided in paragraphs (e)(1) and (2) of this section.

e. **Standards: Pumps in light liquid service.**

a. Pursuant to 40 CFR 65.107(a) and 40 CFR 63.2480(c)(6), the owner or operator shall comply with this section no later than May 10, 2008.

b. Pursuant to 40 CFR 65.107(b), unless otherwise specified in 40 CFR 65.102(b) or paragraph (e) of this section, the owner or operator shall monitor each pump to detect leaks and shall comply with all other provisions of this section.

1. *Monitoring method.* The pumps shall be monitored monthly to detect leaks by the method specified in 40 CFR 65.104(b) and (c).

2. *Instrument reading that defines a leak.*

A. Pursuant to 40 CFR 65.107(b)(2) the following leak definitions determined through instrument readings apply:

i. 5,000 parts per million or greater for pumps handling polymerizing monomers;

ii. 2,000 parts per million or greater for pumps in food/medical service; and

iii. 1,000 parts per million or greater for all other pumps.

B. Pursuant to 40 CFR 63.2480(c)(5), for pumps in light liquid service in an MCPU that has no continuous process vents and is part of an existing source, you may elect to consider the leak definition that defines a leak to be 10,000 ppm or greater as an alternative to the values specified in 5.2.1(e)(b)(2)(A) above (40 CFR 65.107(b)(2)(i) through (iii).

3. Leak repair exception. For pumps to which a 1,000 parts per million leak definition applies, repair is not required unless an instrument reading of 2,000 parts per million or greater is detected.

4. Visual inspection. Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. The owner or operator shall document that the inspection was conducted and the date of the inspection. If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall comply with either of the following procedures:

i. The owner or operator shall monitor the pump as specified in 40 CFR 65.104(b) and (c) unless the pump has already been monitored since the last routine monthly monitoring required by paragraph (b)(1) of this section. If monitoring is performed and the instrument reading indicates a leak as specified in paragraph (b)(2) of this section, a leak is detected and the leak shall be repaired using the procedures in 40 CFR 65.105, except as specified in paragraph (b)(3) of this section; or

ii. The owner or operator shall eliminate the visual indications of liquids dripping.

c. Pursuant to 40 CFR 65.107(c) *Percent leaking pumps calculation.*

1. The owner or operator shall decide no later than the implementation date of this part or upon revision of an operating permit whether to calculate percent leaking pumps on a process unit basis or group of process units basis. Once the owner or operator has decided, all subsequent percentage calculations shall be made on the same basis.

2. If, when calculated on a 6-month rolling average, at least the greater of either 10 percent of the pumps in a process unit or three pumps in a process unit leak, the owner or operator shall implement a quality improvement program for pumps that complies with the requirements of 40 CFR 65.116.

3. The number of pumps at a process unit shall be the sum of all the pumps in regulated material service, except that pumps found leaking in a continuous process unit within 1 month after startup of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only.

4. Percent leaking pumps shall be determined by Equation 107-1 of this section:

$$\%P_L = \left((P_L - P_S)/(P_T - P_S)\right) * 100 \qquad (Eq.\ 107\text{-}1)$$

Where:

$\%P_L$ = Percent leaking pumps.

P_L = Number of pumps found leaking as determined through monthly monitoring as required in paragraph (b)(1) of this section.

P_S = Number of pumps leaking within 1 month of startup during the current monitoring period.

P_T = Total pumps in regulated material service, including those meeting the criteria in paragraphs (e)(1), (e)(2), (e)(3), and (e)(6) of this section.

d. Pursuant to 40 CFR 65.107(d) Leak repair. If a leak is detected pursuant to paragraph (b) of this section, then the leak shall be repaired using the procedures in 40 CFR 65.105, as applicable.

e. Pursuant to 40 CFR 65.107(e) Special provisions for pumps

1. *Dual mechanical seal pumps.* Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (b) of this section, provided the requirements specified in paragraphs (e)(1)(i) through (viii) of this section are met.

i. The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicates failure of the seal system, the barrier fluid system, or both. The owner or operator shall keep records of the design criteria and an explanation of the design criteria, and any changes to these criteria and the reasons for the changes.

ii. Each dual mechanical seal system shall meet the following three requirements:

A. Operated with the barrier fluid at a pressure that is at all times (except periods of start-up, shutdown, or malfunction) greater than the pump stuffing box pressure; or

B. Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of 40 CFR 65.115; or

C. Equipped with a closed-loop system that purges the barrier fluid into a process stream.

iii. The barrier fluid is not in light liquid service.

iv. Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

v. Each pump is checked by visual inspection each calendar week for indications of liquids dripping from the pump seal. The owner or operator shall document that the inspection was conducted and the rate of the inspection. If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the owner or operator shall follow either one of the following procedures prior to the next required inspection:

A. The owner or operator shall monitor the pump as specified in 40 CFR 65.104(b) and (c) to determine if there is a leak of regulated material in the barrier fluid. If an instrument reading of 1,000 parts per million or greater is measured, a leak is detected and it shall be repaired using the procedures in 40 CFR 65.105; or

B. The owner or operator shall eliminate the visual indications of liquids dripping.

vi. If indications of liquids dripping from the pump seal exceed the criteria established in paragraph (e)(1)(i) of this section, or if based on the criteria established in paragraph (e)(1)(i) of this section the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

vii. Each sensor as described in paragraph (e)(1)(iv) of this section is observed daily or is equipped with an alarm unless the pump is located within the boundary of an unmanned plant site.

viii. When a leak is detected pursuant to paragraph (e)(1)(vi) of this section, it shall be repaired as specified in 40 CFR 65.105.

2. *No external shaft.* Any pump that is designed with no externally actuated shaft penetrating the pump housing is exempt from the requirements of paragraph (b) of this section.

3. *Routed to a process or fuel gas system or equipped with a closed vent system.* Any pump that is routed to a process or fuel gas system or equipped with a closed vent system that captures and transports leakage from the pump to a control device meeting the requirements of 40 CFR 65.115 is exempt from the requirements of paragraph (b) of this section.

4. *Unmanned plant site.* Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (b)(4) and (e)(1)(v) of this section and the daily requirements of paragraph (e)(1)(vii) of this section provided that each pump is visually inspected as often as practical and at least monthly.

5. *Ninety percent exemption.* If more than 90 percent of the pumps at a process unit meet the criteria in either paragraph (e)(1) or (2) of this section, the process unit is exempt from the percent leaking calculation in paragraph (c) of this section.

6. *Unsafe-to-monitor pumps.* Any pump that is designated as described in 40 CFR 65.103(c)(1) as an unsafe-to-monitor pump is exempt from the requirements of paragraph (b) of this section, the monitoring and inspection requirements of paragraphs (e)(1)(v) through (viii) of this section, and the owner or operator shall monitor and repair the pump according to the written plan specified in 40 CFR 65.103(c)(4).

f. Standards: Connectors in gas/vapor service and in light liquid service

a. Pursuant to 40 CFR 65.108 (a) and 40 CFR 63.2480(c)(6), except as allowed in 40 CFR 65.102(b) or as specified in paragraph (e) of this section, the owner or operator shall monitor all connectors in each process unit initially for leaks by either 12 months after the implementation date of May 10, 2008 or 12 months after initial startup, whichever is later. If all connectors in each process unit have been monitored for leaks prior to the implementation date of May 10, 2008, no initial monitoring is required provided either no process changes have been made since the monitoring or the owner or operator can determine that the results of the monitoring, with or without adjustments, reliably demonstrate compliance despite process changes. If required to monitor because of a process change, the owner or operator is required to monitor only those connectors involved in the process change.

b. Pursuant to 40 CFR 65.108 (b), except as allowed in 40 CFR 65.102(b) or as specified in paragraph (e) of this section, the owner or operator shall monitor all connectors in gas/vapor and light liquid service as specified in paragraphs (a) and (b)(3) of this section.

1. Monitoring method. The connectors shall be monitored to detect leaks by the method specified in 40 CFR 65.104(b) and (c).

2. Instrument reading that defines a leak. If an instrument reading greater than or equal to 500 parts per million is measured, a leak is detected.

3. Monitoring periods. The owner or operator shall perform monitoring, subsequent to the initial monitoring required in paragraph (a) of this section, as specified in paragraphs (b)(3)(i) through (iii) of this section and shall comply with the requirements of paragraphs (b)(3)(iv) and (v) of this section. The required period in which monitoring must be conducted shall be determined from paragraphs (b)(3)(i) through (iii) of this section using the monitoring results from the preceding monitoring period. The

percent leaking connectors shall be calculated as specified in paragraph (c) of this subpart.

i. If the percent leaking connectors in the process unit was greater than or equal to 0.5 percent, then monitor within 12 months (1 year).

ii. If the percent leaking connectors in the process unit was greater than or equal to 0.25 percent but less than 0.5 percent, then monitor within 4 years. An owner or operator may comply with the requirements of paragraph (b)(3)(ii) of this section by monitoring at least 40 percent of the connectors within 2 years of the start of the monitoring period, provided all connectors have been monitored by the end of the 4-year monitoring period.

iii. If the percent leaking connectors in the process unit was less than 0.25 percent, then monitor as provided in paragraph (b)(3)(iii)(A) of this section and either paragraph (b)(3)(iii)(B) or (C) of this section, as appropriate.

A. An owner or operator shall monitor at least 50 percent of the connectors within 4 years of the start of the monitoring period.

B. If the percent leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is greater than or equal to 0.35 percent of the monitored connectors, the owner or operator shall monitor as soon as practical, but within the next 6 months, all connectors that have not yet been monitored during the monitoring period. At the conclusion of monitoring, a new monitoring period shall be started pursuant to paragraph (b)(3) of this section, based on the percent leaking connectors of the total monitored connectors.

C. If the percent leaking connectors calculated from the monitoring results in paragraph (b)(3)(iii)(A) of this section is less than 0.35 percent of the monitored connectors, the owner or operator shall monitor all connectors that have not yet been monitored within 8 years of the start of the monitoring period.

iv. If, during the monitoring conducted pursuant to paragraphs (b)(3)(i) through (iii) of this section, a connector is found to be leaking, it shall be re-monitored once within 90 days after repair to confirm that it is not leaking.

v. The owner or operator shall keep a record of the start date and end date of each monitoring period under this section for each process unit.

c. Pursuant to 40 CFR 65.108(c), for use in determining the monitoring frequency as specified in paragraphs (a) and (b)(3) of this section, the percent leaking connectors as used in paragraphs (a) and (b)(3) of this section shall be calculated by using Equation 108-1 of this section:

$$\%C_L = C_L / C_t * 100 \qquad \text{(Eq. 108-1)}$$

Where:

%CL = Percent leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b)(3)(i) through (b)(3)(iii) of this section.

CL = Number of connectors measured at 500 parts per million or greater by the method specified in 40 CFR 65.104(b).

Ct = Total number of monitored connectors in the process unit.

d. Pursuant to 40 CFR 65.108(d), if a leak is detected pursuant to paragraphs (a) and (b) of this section, then the leak shall be repaired using the procedures in 40 CFR 65.105, as applicable.

e. Pursuant to 40 CFR 65.108(e), Special provisions for connector

1. Unsafe-to-monitor connectors. Any connector that is designated, as described in 40 CFR 65.103(c)(1), as an unsafe-to-monitor connector is exempt from the requirements of paragraphs (a) and (b) of this section and the owner or operator shall monitor according to the written plan specified in 40 CFR 65.103(c)(4).

2. Inaccessible, ceramic, or ceramic-lined connectors.

i. Any connector that is inaccessible or that is ceramic or ceramic-lined (for example, porcelain, glass, or glass-lined), is exempt from the monitoring requirements of paragraphs (a) and (b) of this section and from the recordkeeping and reporting requirements of 40 CFR 65.119 and 65.120. An inaccessible connector is one that meets any of the following provisions, as applicable:

A. Buried;

B. Insulated in a manner that prevents access to the connector by a monitor probe;

C. Obstructed by equipment or piping that prevents access to the connector by a monitor probe;

D. Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold that would allow access to connectors up to 7.6 meters (25 feet) above the ground;

E. Inaccessible because it would require elevating the monitoring personnel more than 2 meters (7 feet) above a permanent support surface or would require the erection of scaffold;

F. Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines or would risk damage to equipment.

ii. If any inaccessible, ceramic, or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the visual, audible, olfactory, or other indications of a leak to the atmosphere shall be eliminated as soon as practical.

3. Pursuant to 40 CFR 63.2480(c)(4), you may elect to comply with the monitoring and repair requirements specified in (3)(i) through (iii) below as an alternative to the requirements specified in 5.2.1(f)(a) through (d) above.:

i. Connectors shall be monitored within 5 days by the method specified in 40 CFR 65.104(b) and (c) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

ii. If an instrument reading of 500 parts per million or greater is measured, a leak is detected.

iii. When a leak is detected, it shall be repaired using the procedures in 40 CFR 65.105, as applicable

g. **Standards: Agitators in gas/vapor service and in light liquid service.**

a. Pursuant to 40 CFR 65.109(a) and 40 CFR 63.2480(c)(6), the owner or operator shall comply with this section no later than the implementation date of May 10, 2008.

b. Pursuant to 40 CFR 65.109(b), *Leak detection*

1. *Monitoring method.* Each agitator seal shall be monitored monthly to detect leaks by the methods specified in 40 CFR 65.104(b) and (c), except as provided in 40 CFR 65.102(b) or paragraph (e) of this section.

2. *Instrument reading that defines a leak.* If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected.

3. *Visual inspection.* Each agitator seal shall be checked by visual inspection each calendar week for indications of liquids dripping from the agitator seal. The owner or operator shall document that the inspection was conducted and the date of the inspection. If there are indications of liquids dripping from the agitator seal, the owner or operator shall comply with either of the following procedures prior to the next required inspection:

i. The owner or operator shall monitor the agitator seal as specified in 40 CFR 65.104(b) and (c) to determine if there is a leak of regulated material. If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected, and it shall be repaired according to paragraph (d) of this section.

ii. The owner or operator shall eliminate the indications of liquids dripping from the agitator seal.

d. Pursuant to 40 CFR 65.109(d), if a leak is detected, then the leak shall be repaired using the procedures in 40 CFR 65.105(a).

e. Pursuant to 40 CFR 65.109(e), *Special provisions for agitators*

1. *Dual mechanical seal.* Each agitator equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (b) of this section provided the requirements specified in paragraphs (e)(1)(i) through (vi) of this section are met.

   i. Each dual mechanical seal system shall meet any one of the following requirements:

      A. Operated with the barrier fluid at a pressure that is at all times (except during periods of startup, shutdown, or malfunction) greater than the agitator stuffing box pressure; or

      B. Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system, or connected by a closed vent system to a control device that meets the requirements of 40 CFR 65.115; or

      C. Equipped with a closed-loop system that purges the barrier fluid into a process stream.

   ii. The barrier fluid is not in light liquid service.

   iii. Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

   iv. Each agitator seal is checked by visual inspection each calendar week for indications of liquids dripping from the agitator seal. If there are indications of liquids dripping from the agitator seal at the time of the weekly inspection, the owner or operator shall follow either of the following procedures prior to the next required inspection:

      A. The owner or operator shall monitor the agitator seal as specified in 40 CFR 65.104(b) and (c) to determine the presence of regulated material in the barrier fluid. If an instrument reading of 10,000 parts per million or greater is measured, a leak is detected and it shall be repaired using the procedures in 40 CFR 65.105; or

      B. The owner or operator shall eliminate the visual indications of liquids dripping.

   v. Each sensor as described in paragraph (e)(1)(iii) of this section is observed daily or is equipped with an alarm unless the agitator seal is located within the boundary of an unmanned plant site.

   vi. The owner or operator of each dual mechanical seal system shall meet the following requirements:

      A. The owner or operator shall determine based on design considerations and operating experience criteria that indicates failure of the seal system, the barrier fluid system, or both and that are applicable to the presence and frequency of drips. If indications of liquids dripping from the agitator seal exceed the criteria, or if based on the criteria the sensor

indicates failure of the seal system, the barrier fluid system, or both, a leak is detected and shall be repaired pursuant to 40 CFR 65.105, as applicable.

B. The owner or operator shall keep records of the design criteria and an explanation of the design criteria, and any changes to these criteria and the reasons for the changes.

2. *No external shaft.* Any agitator that is designed with no externally actuated shaft penetrating the agitator housing is exempt from paragraph (b) of this section.

3. *Routed to a process or fuel gas system or equipped with a closed vent system.* Any agitator that is routed to a process or fuel gas system or equipped with a closed vent system that captures and transports leakage from the agitator to a control device meeting the requirements of 40 CFR 65.115 is exempt from the requirements of paragraph (b) of this section.

4. *Unmanned plant site.* Any agitator that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (b)(3) and (e)(1)(iv) of this section, and the daily requirements of paragraph (e)(1)(v) of this section provided that each agitator is visually inspected as often as practical and at least monthly.

5. *Difficult-to-monitor agitator seals.* Any agitator seal that is designated as described in 40 CFR 65.103(c)(2) as a difficult-to-monitor agitator seal is exempt from the requirements of paragraph (b) of this section and the owner or operator shall monitor the agitator seal according to the written plan specified in 40 CFR 65.103(c)(4).

6. *Equipment obstructions.* Any agitator seal that is obstructed by equipment or piping that prevents access to the agitator by a monitor probe is exempt from the monitoring requirements of paragraph (b) of this section.

7. *Unsafe-to-monitor agitator seals.* Any agitator seal that is designated as described in 40 CFR 65.103(c)(1) as an unsafe-to-monitor agitator seal is exempt from the requirements of paragraph (b) of this section and the owner or operator of the agitator seal monitors the agitator seal according to the written plan specified in 40 CFR 65.103(c)(4).

f. Standards: Compressors

a. Pursuant to 40 CFR 65.112(a) and 40 CFR 63.2480(c)(6), the owner or operator shall comply with this section no later than May 10, 2008.

b. Pursuant to 40 CFR 65.112(a), each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to the atmosphere except as provided in 40 CFR 65.102(b) and paragraphs (e) and (f) of this section. Each compressor seal system shall meet any one of the following requirements:

1. Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure at all times (except during periods of start-up, shutdown, or malfunction); or

2. Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system, or connected by a closed vent system to a control device that meets the requirements of 40 CFR 65.115; or

3. Equipped with a closed-loop system that purges the barrier fluid directly into a process stream.

c. Pursuant to 40 CFR 65.112(c), the barrier fluid shall not be in light liquid service. Each barrier fluid system shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both. Each sensor shall be observed daily or shall be equipped with an alarm unless the compressor is located within the boundary of an unmanned plant site.

d. Pursuant to 40 CFR 65.112(d), *Failure criterion and leak detection.*

1. The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both. If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion, a leak is detected and shall be repaired pursuant to 40 CFR 65.105, as applicable.

2. The owner or operator shall keep records of the design criteria and an explanation of the design criteria, and any changes to these criteria and the reasons for the changes.

e. Pursuant to 40 CFR 65.112(e), *Routed to a process or fuel gas system or equipped with a closed vent system.* A compressor is exempt from the requirements of paragraphs (b) through (d) of this section if it is equipped with a system to capture and transport leakage from the compressor drive shaft seal to a process or a fuel gas system or to a closed vent system that captures and transports leakage from the compressor to a control device meeting the requirements of 40 CFR 65.115.

f. Pursuant to 40 CFR 65.112(f), *Alternative compressor standard.*

1. Any compressor that is designated as described in 40 CFR 65.103(e) shall operate at all times with an instrument reading of less than 500 parts per million. A compressor so designated is exempt from the requirements of paragraphs (b) through (d) of this section if the compressor is demonstrated initially upon designation, annually, and at other times requested by the Administrator to be operating with an instrument reading of less than 500 parts per million as measured by the method specified in 40 CFR 65.104(b) and (c).

2. The owner or operator shall record the dates and results of each compliance test including the background level measured and the maximum instrument reading measured during each compliance test.

h. <u>Standards: Sampling connection systems</u>

a. Pursuant to 40 CFR 65.113(a)and 40 CFR 63.2480(c)(6) the owner or operator shall comply with this section no later than May 10, 2008.

b. Pursuant to 40 CFR 65.113(b), each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed vent system except as provided in

paragraph (d) of this section or 40 CFR 65.102(b). Gases displaced during filling of the sample container are not required to be collected or captured.

c. Pursuant to 40 CFR 65.113(c), each closed-purge, closed-loop, or closed vent system as required in paragraph (b) of this section shall meet the following applicable requirements:

1. The system shall return the purged process fluid directly to a process line or to a fuel gas system; or

2. Collect and recycle the purged process fluid to a process; or

3. Be designed and operated to capture and transport all the purged process fluid to a control device that meets the requirements of 40 CFR 65.115; or

4. Collect, store, and transport the purged process fluid to any of the following systems or facilities:

i. A waste management unit as defined in 40 CFR 63.111, if the waste management unit is complying with the provisions of 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams. For sources referenced to this part from 40 CFR part 63, subpart H, and if the purged process fluid does not contain any organic HAP listed in table 9 of 40 CFR part 63, subpart G, the waste management unit need not be subject to and operated in compliance with the requirements of 40 CFR part 63, subpart G, applicable to Group 1 wastewater steams provided the facility has a National Pollution Discharge Elimination System (NPDES) permit or sends the wastewater to an NPDES-permitted facility; or

ii. A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; or

iii. A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261; and

5. Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied.

d. Pursuant to 40 CFR 65.113(d), in-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (b) and (c) of this section.

i. **Standards: Open-ended valves or lines**

a. Pursuant to 40 CFR 65.114(a) and 40 CFR 63.2480(c)(6), the owner or operator shall comply with this section no later than May 10, 2008.

b. Pursuant to 40 CFR 65.114(b), *Equipment and operational requirements.*

1. Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve except as provided in 40 CFR 65.102(b) and paragraphs (c) and (d) of this section. The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or

during maintenance. The operational provisions of paragraphs (b)(2) and (3) of this section also apply.

2. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

3. When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (b)(1) of this section at all other times.

c. Pursuant to 40 CFR 65.114(c), open-ended valves or lines in an emergency shutdown system that are designed to open automatically in the event of a process upset are exempt from the requirements of paragraph (b) of this section.

d. Pursuant to 40 CFR 65.114(d), open-ended valves or lines containing materials that would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraph (b) of this section are exempt from the requirements of paragraph (b) of this section.

j. Standards: Closed vent systems and control devices; or emissions routed to a fuel gas system or process.

a. Pursuant to 40 CFR 65.115(a) and 40 CFR 63.2480(c)(6), the owner or operator shall comply with this section no later than May 10, 2008.

b. Pursuant to 40 CFR 65.115(b), *Compliance standard.*

1. Owners or operators of closed vent systems and nonflare control devices used to comply with provisions of this subpart shall design and operate the closed vent systems and nonflare control devices to reduce emissions of regulated material with an efficiency of 95 percent or greater, or to reduce emissions of regulated material to a concentration of 20 parts per million by volume or, for an enclosed combustion device, to provide a minimum residence time of 0.50 second at a minimum of 760 °C (1400 °F). Owners and operators of closed vent systems and nonflare control devices used to comply with this part shall comply with the provisions of 40 CFR 65.142(d), except as provided in 40 CFR 65.102(b). Note that this includes the startup, shutdown, and malfunction provisions of 40 CFR 65.6.

2. Owners or operators of closed vent systems and flares used to comply with the provisions of this subpart shall design and operate the flare as specified in 40 CFR 65.142(d), except as provided in 40 CFR 65.102(b). Note that this includes the startup, shutdown, and malfunction provisions of 40 CFR 65.6.

3. Owners or operators routing emissions from equipment leaks to a fuel gas system or process shall comply with the provisions of 40 CFR 65.142(d), except as provided in 40 CFR 65.102(b).

k. Quality improvement program for pumps

a. Pursuant to 40 CFR 65.116(a), if, on a 6-month rolling average, at least the greater of either 10 percent of the pumps in a process unit (or plant site) or three pumps in a process unit (or plant site) leak, the owner or operator shall comply with the following requirements:

1. Pumps that are in food/medical service or in polymerizing monomer service shall comply with all requirements except for those specified in paragraph (d)(8) of this section.

2. Pumps that are not in food/medical or polymerizing monomer service shall comply with all requirements of this section.

b. Pursuant to 40 CFR 65.116(b), The owner or operator shall comply with the requirements of this section until the number of leaking pumps is less than the greater of either 10 percent of the pumps or three pumps calculated as a 6-month rolling average in the process unit (or plant site). Once the performance level is achieved, the owner or operator shall comply with the requirements in 40 CFR 65.107.

c. Pursuant to 40 CFR 65.116(c), if in a subsequent monitoring period, the process unit (or plant site) has the greater of either 10 percent of the pumps leaking or three pumps leaking (calculated as a 6-month rolling average), the owner or operator shall resume the quality improvement program starting at performance trials.

d. Pursuant to 40 CFR 65.116(d), the quality improvement program shall meet the requirements specified in paragraphs (d)(1) through (8) of this section.

1. The owner or operator shall comply with the requirements in 40 CFR 65.107.

2. *Data collection.* The owner or operator shall collect the data specified in paragraphs (d)(2)(i) through (v) of this section and maintain records for each pump in each process unit (or plant site) subject to the quality improvement program. The data may be collected and the records may be maintained on a process unit or plant site basis.

i. Pump type (for example, piston, horizontal or vertical centrifugal, gear, bellows); pump manufacturer; seal type and manufacturer; pump design (for example, external shaft, flanged body); materials of construction; if applicable, barrier fluid or packing material; and year installed.

ii. Service characteristics of the stream such as discharge pressure, temperature, flow rate, corrosivity, and annual operating hours.

iii. The maximum instrument readings observed in each monitoring observation before repair, response factor for the stream if appropriate, instrument model number, and date of the observation.

iv. If a leak is detected, the repair methods used and the instrument readings after repair.

v. If the data will be analyzed as part of a larger analysis program involving data from other plants or other types of process units, a description of any maintenance or quality assurance programs used in the process unit that are intended to improve emission performance.

3. The owner or operator shall continue to collect data on the pumps as long as the process unit (or plant site) remains in the quality improvement program.

4. *Pump or pump seal inspection.* The owner or operator shall inspect all pumps or pump seals that exhibited frequent seal failures and were removed from the process unit due to leaks. The inspection shall determine the probable cause of the pump seal failure or of the pump leak and shall include recommendations, as appropriate, for design changes or changes in specifications to reduce leak potential.

5. *Data analysis.*

   i. The owner or operator shall analyze the data collected to comply with the requirements of paragraph (d)(2) of this section to determine the services, operating or maintenance practices, and pump or pump seal designs or technologies that have poorer than average emission performance and those that have better than average emission performance. The analysis shall determine if specific trouble areas can be identified on the basis of service, operating conditions or maintenance practices, equipment design, or other process-specific factors.

   ii. The analysis shall also be used to determine if there are superior performing pump or pump seal technologies that are applicable to the service(s), operating conditions, or pump or pump seal designs associated with poorer than average emission performance. A superior performing pump or pump seal technology is one with a leak frequency of less than 10 percent for specific applications in the process unit or plant site. A candidate superior performing pump or pump seal technology is one demonstrated or reported in the available literature or through a group study as having low emission performance and as being capable of achieving less than 10 percent leaking pumps in the process unit (or plant site).

   iii. The analysis shall include consideration of the following information:

      A. The data obtained from the inspections of pumps and pump seals removed from the process unit due to leaks;

      B. Information from the available literature and from the experience of other plant sites that will identify pump designs or technologies and operating conditions associated with low emission performance for specific services; and

      C. Information on limitations on the service conditions for the pump seal technology operating conditions as well as information on maintenance procedures to ensure continued low emission performance.

   iv. The data analysis may be conducted through an inter- or intracompany program (or through some combination of the two approaches) and may be for a single process unit, a plant site, a company, or a group of process units.

   v. The first analysis of the data shall be completed no later than 18 months after the start of the quality improvement program. The first analysis shall be performed using data collected for a minimum of 6 months. An analysis of the data shall be done each year the process unit is in the quality improvement program.

6. *Trial evaluation program.* A trial evaluation program shall be conducted at each plant site for which the data analysis does not identify use of superior performing pump seal technology or pumps that can be applied to the areas identified as having poorer than average performance except as provided in paragraph (d)(6)(v) of this section. The trial program shall be used to evaluate the feasibility of using in the process unit (or plant site) the pump designs or seal technologies and operating and maintenance practices that have been identified by others as having low emission performance.

i. The trial evaluation program shall include on-line trials of pump seal technologies or pump designs and operating and maintenance practices that have been identified in the available literature or in analysis by others as having the ability to perform with leak rates below 10 percent in similar services, as having low probability of failure, or as having no external actuating mechanism in contact with the process fluid. If any of the candidate superior performing pump seal technologies or pumps is not included in the performance trials, the reasons for rejecting specific technologies from consideration shall be documented as required in paragraph (e)(3)(ii) of this section.

ii. The number of pump seal technologies or pumps in the trial evaluation program shall be the lesser of 1 percent or two pumps for programs involving single process units, and the lesser of 1 percent or five pumps for programs involving a plant site or groups of process units. The minimum number of pumps or pump seal technologies in a trial program shall be one.

iii. The trial evaluation program shall specify and include documentation of the following information:

A. The candidate superior performing pump seal designs or technologies to be evaluated, the stages for evaluating the identified candidate pump designs or pump seal technologies, including the time period necessary to test the applicability;

B. The frequency of monitoring or inspection of the equipment;

C. The range of operating conditions over which the component will be evaluated; and

D. Conclusions regarding the emission performance and the appropriate operating conditions and services for the trial pump seal technologies or pumps.

iv. The performance trials shall initially be conducted at least for a 6-month period beginning not later than 18 months after the start of the quality improvement program. No later than 24 months after the start of the quality improvement program, the owner or operator shall have identified pump seal technologies or pump designs that, combined with appropriate process, operating, and maintenance practices, operate with low emission performance for specific applications in the process unit. The owner or operator shall continue to conduct performance trials as long as no superior performing design or technology has been identified, except as provided in paragraph (d)(6)(vi) of this section. The initial list of superior emission

performance pump designs or pump seal technologies shall be amended in the future, as appropriate, as additional information and experience is obtained.

v. Any plant site with fewer than 400 valves and owned by a corporation with fewer than 100 employees shall be exempt from trial evaluations of pump seals or pump designs. Plant sites exempt from the trial evaluations of pumps shall begin the pump seal or pump replacement program at the start of the fourth year of the quality improvement program.

vi. An owner or operator who has conducted performance trials on all alternative superior emission performance technologies suitable for the required applications in the process unit may stop conducting performance trials provided that a superior performing design or technology has been demonstrated, or there are no technically feasible alternative superior technologies remaining. The owner or operator shall prepare an engineering evaluation documenting the physical, chemical, or engineering basis for the judgment that the superior emission performance technology is technically infeasible or demonstrating that it would not reduce emissions.

7. *Quality assurance program.* Each owner or operator shall prepare and implement a pump quality assurance program that details purchasing specifications and maintenance procedures for all pumps and pump seals in the process unit. The quality assurance program may establish any number of categories, or classes, of pumps as needed to distinguish among operating conditions and services associated with poorer than average emission performance, as well as those associated with better than average emission performance. The quality assurance program shall be developed considering the findings of the data analysis required under paragraph (d)(5) of this section, if applicable; the findings of the trial evaluation required in paragraph (d)(6) of this section; and the operating conditions in the process unit. The quality assurance program shall be updated each year as long as the process unit has the greater of either 10 percent or more leaking pumps or has three leaking pumps.

i. The quality assurance program shall meet the following requirements:

A. Establish minimum design standards for each category of pumps or pump seal technology. The design standards shall specify known critical parameters such as tolerance, manufacturer, materials of construction, previous usage, or other applicable identified critical parameters;

B. Require that all equipment orders specify the design standard (or minimum tolerances) for the pump or the pump seal;

C. Provide for an audit procedure for quality control of purchased equipment to ensure conformance with purchase specifications. The audit program may be conducted by the owner or operator of the plant site or process unit or by a designated representative; and

D. Detail off-line pump maintenance and repair procedures. These procedures shall include provisions to ensure that rebuilt or refurbished pumps and pump seals will meet the design

specifications for the pump category and will operate so that emissions are minimized.

ii. The quality assurance program shall be established no later than the start of the third year of the quality improvement program for plant sites with 400 or more valves or 100 or more employees, and no later than the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees.

8. *Pump or pump seal replacement.* Beginning at the start of the third year of the quality improvement program for plant sites with 400 or more valves or 100 or more employees and at the start of the fourth year of the quality improvement program for plant sites with less than 400 valves and less than 100 employees, the owner or operator shall replace as described in paragraphs (d)(8)(i) and (ii) of this section the pumps or pump seals that are not superior emission performance technology with pumps or pump seals that have been identified as superior emission performance technology and that comply with the quality assurance standards for the pump category. Superior emission performance technology is that category or design of pumps or pump seals with emission performance that, when combined with appropriate process, operating, and maintenance practices, will result in less than 10 percent leaking pumps for specific applications in the process unit or plant site. Superior emission performance technology includes material or design changes to the existing pump, pump seal, seal support system, installation of multiple mechanical seals or equivalent, or pump replacement.

i. Pumps or pump seals shall be replaced at the rate of 20 percent per year based on the total number of pumps in light liquid service. The calculated value shall be rounded to the nearest nonzero integer value. The minimum number of pumps or pump seals shall be one. Pump replacement shall continue until all pumps subject to the requirements of 40 CFR 65.107 are pumps determined to be superior performance technology.

ii. The owner or operator may delay replacement of pump seals or pumps with superior technology until the next planned process unit shutdown provided the number of pump seals and pumps replaced is equivalent to the 20 percent or greater annual replacement rate.

iii. The pumps shall be maintained as specified in the quality assurance program.

e. Pursuant to 40 CFR 65.116(e), in addition to the records required by paragraph (d)(2) of this section, the owner or operator shall maintain records for the period of the quality improvement program for the process unit as specified in paragraphs (e)(1) through (6) of this section.

1. When using a pump quality improvement program as specified in this section, record the following information:

i. The rolling average percent leaking pumps.

ii. Documentation of all inspections conducted under the requirements of paragraph (d)(4) of this section and any recommendations for design or specification changes to reduce leak frequency.

iii. The beginning and ending dates while meeting the requirements of paragraph (d) of this section.

2. If a leak is not repaired within 15 calendar days after discovery of the leak, the reason for the delay and the expected date of successful repair.

3. Records of all analyses required in paragraph (d) of this section. The records will include the following information:

i. A list identifying areas associated with poorer than average performance and the associated service characteristics of the stream, the operating conditions, and the maintenance practices.

ii. The reasons for rejecting specific candidate superior emission performing pump technology from performance trials.

iii. The list of candidate superior emission performing valve or pump technologies and documentation of the performance trial program items required under paragraph (d)(6)(iii) of this section.

iv. The beginning date and duration of performance trials of each candidate superior emission performing technology.

4. All records documenting the quality assurance program for pumps as specified in paragraph (d)(7) of this section, including records indicating that all pumps replaced or modified during the period of the quality improvement program are in compliance with the quality assurance.

5. Records documenting compliance with the 20 percent or greater annual replacement rate for pumps as specified in paragraph (d)(8) of this section.

6. Information and data to show the corporation has fewer than 100 employees, including employees providing professional and technical contracted services.

1. **Alternative means of emission limitation: Batch processes**

a. Pursuant to 40 CFR 65.117(a), as an alternative to complying with the requirements of 40 CFR 65.106 through 65.114 and 40 CFR 65.116, an owner or operator of a batch process that operates in regulated material service during the calendar year may comply with one of the standards specified in paragraphs (b) and (c) of this section, or the owner or operator may petition for approval of an alternative standard under the provisions of 40 CFR 65.102(b). The alternative standards of this section provide the options of pressure testing or monitoring the equipment for leaks. The owner or operator may switch among the alternatives provided the change is documented as specified in paragraph (b)(7) of this section.

b. Pursuant to 40 CFR 65.116(b) and 40 CFR 63.2480(c)(2), the following requirements shall be met if an owner or operator elects to use pressure testing of product-process equipment to demonstrate compliance with this subpart. This section may be applied to all process not just batch process. However, the pressure testing for leaks below is not required after reconfiguration of an equipment train if flexible hose connections are the only disturbed equipment:

1. *Reconfiguration*. Each time equipment is reconfigured for production of a different product or intermediate, the batch product-process equipment train

shall be pressure-tested for leaks before regulated material is first fed to the equipment and the equipment is placed in regulated material service.

i. When the batch product-process equipment train is reconfigured to produce a different product, pressure testing is required only for the new or disturbed equipment.

ii. Each batch product-process that operates in regulated material service during a calendar year shall be pressure-tested at least once during that calendar year.

iii. Pressure testing is not required for routine seal breaks, such as changing hoses or filters that are not part of the reconfiguration to produce a different product or intermediate.

2. *Testing procedures.* The batch product-process equipment shall be tested either using the procedures specified in paragraph (b)(5) of this section for pressure vacuum loss or with a liquid using the procedures specified in paragraph (b)(6) of this section.

3. *Leak detection.*

i. For pressure or vacuum tests using a gas, a leak is detected if the rate of change in pressure is greater than 6.9 kilopascals (1 pound per square inch gauge) in 1 hour or if there is visible, audible, or olfactory evidence of fluid loss.

ii. For pressure tests using a liquid, a leak is detected if there are indications of liquids dripping or if there is other evidence of fluid loss.

4. *Leak repair.*

i. If a leak is detected, it shall be repaired and the batch product-process equipment shall be retested before startup of the process.

ii. If a batch product-process fails the retest (the second of two consecutive pressure tests), it shall be repaired as soon as practical but not later than 30 calendar days after the second pressure test, except as specified in paragraph (e) of this section.

5. *Gas pressure test procedure for pressure or vacuum loss.* The following procedures shall be used to pressure test batch product-process equipment for pressure or vacuum loss to demonstrate compliance with the requirements of paragraph (b)(3)(i) of this section:

i. The batch product-process equipment train shall be pressurized with a gas to a pressure less than the set pressure of any safety relief devices or valves or to a pressure slightly above the operating pressure of the equipment, or alternatively the equipment shall be placed under a vacuum.

ii. Once the test pressure is obtained, the gas source or vacuum source shall be shut off.

iii. The test shall continue for not less than 15 minutes unless it can be determined in a shorter period of time that the allowable rate of pressure drop or of pressure rise was exceeded. The pressure in the batch product-process equipment shall be measured after the gas or vacuum source is shut off and at the end of the test period. The rate of change in pressure in the batch product-process equipment shall be calculated using Equation 117-1 of this section:

$$\Delta(P/t) = \left(\left|P_f - P_i\right|\right) / \left(t_f - t_i\right) \qquad \text{(Eq. 117-1)}$$

Where:

$\Delta(P/t)$ = Change in pressure, pounds per square inch gauge/hr.

P_f = Final pressure, pounds per square inch gauge.

P_i = Initial pressure, pounds per square inch gauge.

$t_f - t_i$ = Elapsed time, hours.

iv. The pressure shall be measured using a pressure measurement device (gauge, manometer, or equivalent) that has a precision of ±2.5 millimeters mercury (0.10 inch of mercury) in the range of test pressure and is capable of measuring pressures up to the relief set pressure of the pressure relief device. If such a pressure measurement device is not reasonably available, the owner or operator shall use a pressure measurement device with a precision of at least ±10 percent of the test pressure of the equipment and shall extend the duration of the test for the time necessary to detect a pressure loss or rise that equals a rate of 1 pound per square inch gauge per hour (7 kilopascals per hour).

v. An alternative procedure may be used for leak testing the equipment if the owner or operator demonstrates the alternative procedure is capable of detecting a pressure loss or rise.

6. *Pressure test procedure using test liquid.* The following procedures shall be used to pressure test batch product-process equipment using a liquid to demonstrate compliance with the requirements of paragraph (b)(3)(ii) of this section:

i. The batch product-process equipment train or section of the equipment train shall be filled with the test liquid (for example, water, alcohol) until normal operating pressure is obtained. Once the equipment is filled, the liquid source shall be shut off.

ii. The test shall be conducted for a period of at least 60 minutes unless it can be determined in a shorter period of time that the test is a failure.

iii. Each seal in the equipment being tested shall be inspected for indications of liquid dripping or other indications of fluid loss. If there are any indications of liquids dripping or of fluid loss, a leak is detected.

iv. An alternative procedure may be used for leak testing the equipment if the owner or operator demonstrates the alternative procedure is capable of detecting losses of fluid.

7. *Pressure testing recordkeeping.* The owner or operator of a batch product-process who elects to pressure test the batch product-process equipment train to demonstrate compliance with this subpart shall maintain records of the information specified in paragraphs (b)(7)(i) through (v) of this section.

i. The identification of each product or product code produced during the calendar year. It is not necessary to identify individual items of equipment in a batch product-process equipment train.

ii. Physical tagging of the equipment to identify that it is in regulated material service and subject to the provisions of this subpart is not required. Equipment in a batch product-process subject to the provisions of this subpart may be identified on a plant site plan, in log entries, or by other appropriate methods.

iii. The dates of each pressure test required in paragraph (b) of this section, the test pressure, and the pressure drop observed during the test.

iv. Records of any visible, audible, or olfactory evidence of fluid loss.

v. When a batch product-process equipment train does not pass two consecutive pressure tests, as specified in paragraph (b)(4)(ii) of this section, the following information shall be recorded in a log and kept for 2 years:

A. The date of each pressure test and the date of each leak repair attempt;

B. Repair methods applied in each attempt to repair the leak;

C. The reason for the delay of repair;

D. The expected date for delivery of the replacement equipment and the actual date of delivery of the replacement equipment; and

E. The date of successful repair.

c. Pursuant to 40 CFR 65.117(c), the following requirements shall be met if an owner or operator elects to monitor the equipment in a batch process to detect leaks by the method specified in 40 CFR 65.104(b) and (c) to demonstrate compliance with this subpart:

1. The owner or operator shall comply with the requirements of 40 CFR 65.106 through 65.116 as modified by paragraphs (c)(2) through (4) of this section.

2. The equipment shall be monitored for leaks by the method specified in 40 CFR 65.104(b) and (c) when the equipment is in regulated material service or is in use with any other detectable material.

3. The equipment shall be monitored for leaks as specified in the following:

i. Each time the equipment is reconfigured for the production of a new product, the reconfigured equipment shall be monitored for leaks within 30 days of startup of the process. This initial monitoring of reconfigured equipment shall not be included in determining percent leaking equipment in the process unit.

ii. Connectors shall be monitored in accordance with the requirements in 40 CFR 65.108.

iii Equipment other than connectors shall be monitored at the frequencies specified in table 1 below. The operating time shall be determined as the proportion of the year the batch product-process that is subject to the provisions of this subpart is operating.

Table 1 -Batch Processes Monitoring Frequency for Equipment Other Than Connectors

Operating time (percent of year)	Equivalent continuous process monitoring frequency time in use		
	Monthly	Quarterly	Semiannually
0 to <25	Quarterly	Annually	Annually.
25 to <50	Quarterly	Semiannually	Annually.
50 to <75	Bimonthly	Three times	Semiannually.
75 to 100	Monthly	Quarterly	Semiannually.

iv. The monitoring frequencies specified in paragraph (c)(3)(iii) of this section are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. An owner or operator may monitor anytime during the specified monitoring period (for example, month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. For example, if the equipment is not operating during the scheduled monitoring period, the monitoring can be done during the next period when the process is operating.

4. If a leak is detected, it shall be repaired as soon as practical but not later than 15 calendar days after it is detected except as provided in paragraph (e) of this section.

d. Pursuant to 40 CFR 65.117(d), *Added equipment recordkeeping.*

1. For batch product-process units that the owner or operator elects to monitor as provided under paragraph (c) of this section, the owner or operator shall prepare a list of equipment added to batch product-process units since the last monitoring period required in paragraphs (c)(3)(ii) and (iii) of this section.

2. Maintain records demonstrating the proportion of the time during the calendar year the equipment is in use in a batch process that is subject to the provisions of this subpart. Examples of suitable documentation are records of time in use for individual pieces of equipment or average time in use for the process unit. These records are not required if the owner or

operator does not adjust monitoring frequency by the time in use, as provided in paragraph (c)(3)(iii) of this section.

3. Record and keep pursuant to 40 CFR 63.2525 the date and results of the monitoring required in paragraph (c)(3)(i) of this section for equipment added to a batch product-process unit since the last monitoring period required in paragraphs (c)(3)(ii) and (iii) of this section. If no leaking equipment is found during this monitoring, the owner or operator shall record that the inspection was performed. Records of the actual monitoring results are not required.

e. Pursuant to 40 CFR 65.117(e), Delay of repair of equipment for which leaks have been detected is allowed if the replacement equipment is not available provided the following conditions are met:

1. Equipment supplies have been depleted and supplies had been sufficiently stocked before the supplies were depleted.

2. The repair is made no later than 10 calendar days after delivery of the replacement equipment.

f. Pursuant to 40 CFR 65.116(f), for owners or operators electing to meet the requirements of paragraph (b) of this section, the following periodic report to be filed pursuant to 40 CFR 65.120(b) shall include the following information for each process unit:

1. Batch product-process equipment train identification;

2. The number of pressure tests conducted;

3. The number of pressure tests where the equipment train failed the pressure test; and

4. The facts that explain any delay of repairs.

m. **Alternative means of emission limitation: Enclosed-vented process units.**

a. Pursuant to 40 CFR 65.118(a), process units that are enclosed in such a manner that all emissions from equipment leaks are routed to a process or fuel gas system or collected and vented through a closed vent system to a control device meeting the requirements of 40 CFR 65.115 are exempt from the requirements of 40 CFR 65.106 through 65.114 and 40 CFR 65.116. The enclosure shall be maintained under a negative pressure at all times while the process unit is in operation to ensure that all emissions are routed to a control device.

b. Pursuant to 40 CFR 65.118(b), owners and operators choosing to comply with the requirements of this section shall maintain the following records:

1. Identification of the process unit(s) and the regulated materials they handle.

2. A schematic of the process unit, enclosure, and closed vent system.

3. A description of the system used to create a negative pressure in the enclosure to ensure that all emissions are routed to the control device.

n. **Recordkeeping provisions**

a. Pursuant to 40 CFR 65.119(a), an owner or operator of more than one regulated source subject to the provisions of this subpart may comply with the recordkeeping requirements for these regulated sources in one recordkeeping system. The recordkeeping system shall identify each record by regulated source and the type of program being implemented (for example, quarterly monitoring, quality improvement) for each type of equipment. The records required by this subpart are summarized in paragraphs (b) and (c) of this section.

b. Pursuant to 40 CFR 65.119(b), *General equipment leak records.*

1. As specified in 40 CFR 65.103(a) through (c), the owner or operator shall keep general and specific equipment identification if the equipment is not physically tagged and the owner or operator is electing to identify the equipment subject to subpart F of this part through written documentation such as a log or other designation.

2. The owner or operator shall keep a written plan as specified in 40 CFR 65.103(c)(4) for any equipment that is designated as unsafe- or difficult-to-monitor.

3. The owner or operator shall maintain a record of the identity and an explanation as specified in 40 CFR 65.103(d)(2) for any equipment that is designated as unsafe to repair.

4. As specified in 40 CFR 65.103(e), the owner or operator shall maintain a record of the identity of compressors operating with an instrument reading of less than 500 parts per million.

5. The owner or operator shall keep records associated with the determination that equipment is in heavy liquid service as specified in 40 CFR 65.103(f).

6. The owner or operator shall keep records for leaking equipment as specified in 40 CFR 65.104(e)(2).

7. The owner or operator shall keep records for leak repair as specified in 40 CFR 65.105(f) and records for delay of repair as specified in 40 CFR 65.105(d).

8. For instrument response factor criteria determinations performed pursuant to 40 CFR 65.104(b)(2)(i), the owner or operator shall maintain a record of an engineering assessment that identifies the representative composition of the process fluid. The assessment shall be based on knowledge of the compounds present in the process, similarity of response factors for the materials present, the range of compositions encountered during monitoring, or other information available to the owner or operator.

9. The owner or operator shall keep records of the detection limit calibration as specified in 40 CFR 65.104(b)(3).

c. Pursuant to 40 CFR 65.119(c), *Specific equipment leak records.*

1. For valves, the owner or operator shall maintain the following records:

i. The monitoring schedule for each process unit as specified in 40 CFR 65.106(b)(3)(v).

ii. The valve subgrouping records specified in 40 CFR 65.106(b)(4)(iv), if applicable.

2. For pumps, the owner or operator shall maintain the following records:

i. Documentation of pump visual inspections as specified in 40 CFR 65.107(b)(4).

ii. Documentation of dual mechanical seal pump visual inspections as specified in 40 CFR 65.107(e)(1)(v).

iii. For the criteria as to the presence and frequency of drips for dual mechanical seal pumps, records of the design criteria and explanations and any changes and the reason for the changes, as specified in 40 CFR 65.107(e)(1)(i).

3. For connectors, the owner or operator shall maintain the records specified in 40 CFR 65.108(b)(3)(v) which identify a monitoring schedule for each process unit.

4. For agitators, the owner or operator shall maintain the following records:

i. Documentation of agitator seal visual inspections as specified in 40 CFR 65.109(b)(3).

ii. For agitators equipped with a dual mechanical seal system that includes barrier fluid system, the owner or operator shall keep records as specified in 40 CFR 65.109(e)(1)(vi)(B).

iii. Documentation of the dual mechanical seal agitator seal visual inspections as specified in 40 CFR 65.109(e)(1)(iv).

5. For pressure relief devices in gas/vapor or light liquid service, the owner or operator shall keep records of the dates and results of monitoring following a pressure release, as specified in 40 CFR 65.111(c)(3), or the date the rupture disk is replaced as specified in 40 CFR 65.111(e).

6. For compressors, the owner or operator shall maintain the following records:

i. For criteria as to failure of the seal system and/or the barrier fluid system, record the design criteria and explanations and any changes and the reason for the changes, as specified in 40 CFR 65.112(d)(2).

ii. For compressors operating under the alternative compressor standard, record the dates and results of each compliance test as specified in 40 CFR 65.112(f)(2).

7. For a pump QIP program, the owner or operator shall maintain the following records:

i. Individual pump records as specified in 40 CFR 65.116(d)(2).

ii. Trial evaluation program documentation as specified in 40 CFR 65.116(d)(6)(iii).

iii. Engineering evaluation documenting the basis for judgment that superior emission performance technology is not applicable as specified in 40 CFR 65.116(d)(6)(vi).

iv. Quality assurance program documentation as specified in 40 CFR 65.116(d)(7).

v. QIP records as specified in 40 CFR 65.116(e).

8. For process units complying with the batch process unit alternative, the owner or operator shall maintain the following records:

i. Pressure test records as specified in 40 CFR 65.117(b)(7).

ii. Records for equipment added to the process unit as specified in 40 CFR 65.117(d).

9. For process units complying with the enclosed-vented process unit alternative, the owner or operator shall maintain the records for enclosed-vented process units as specified in 40 CFR 65.118(b).

o. **Reporting provisions.**

a. Pursuant to 40 CFR 65.120(a), unless the information specified in paragraphs (a)(1) through (3) of this section has previously been submitted under the referencing subpart, each owner or operator shall submit an Initial Compliance Status Report according to the procedures in 40 CFR 63.2515. The notification shall include the information listed in paragraphs (a)(1) through (3) of this section, as applicable.

1. The notification shall provide the following information for each process unit subject to the requirements of this subpart:

i. Process unit identification;

ii. Number of each equipment type (for example, valves, pumps) excluding equipment in vacuum service; and

iii. Method of compliance with the standard (for example, "monthly leak detection and repair" or "equipped with dual mechanical seals").

2. The notification shall provide the following information for each process unit subject to the requirements of 40 CFR 65.117(b):

i. Batch products or product codes subject to the provisions of this subpart; and

ii. Planned schedule for pressure testing when equipment is configured for production of products subject to the provisions of this subpart.

3. The notification shall provide the following information for each process unit subject to the requirements in 40 CFR 65.118:

i. Process unit identification;

ii. A description of the system used to create a negative pressure in the enclosure, and the control device used to comply with the requirements of subpart G of this part.

b. Pursuant to 40 CFR 65.120(b), the owner or operator shall report the information specified in paragraphs (b)(1) through (9) of this section, as applicable, in the periodic report specified in 40 CFR 63.2520.

1. For the equipment specified in paragraphs (b)(1)(i) through (v) of this section, report in a summary format by equipment type the number of components for which leaks were detected, and for valves, pumps, and connectors show the percent leakers and the total number of components monitored. Also include the number of leaking components that were not repaired as required by 40 CFR 65.105(a), and for valves identify the number of components that are determined by 40 CFR 65.106(c)(3) to be nonrepairable.

i. Valves in gas/vapor service and in light liquid service pursuant to 40 CFR 65.106(b) and (c).

ii. Pumps in light liquid service pursuant to 40 CFR 65.107(b) and (c).

iii. Connectors in gas/vapor service and in light liquid service pursuant to 40 CFR 65.108(b) and (c).

iv. Agitators in gas/vapor service and in light liquid service pursuant to 40 CFR 65.109(b).

v. Compressors pursuant to 40 CFR 65.112(d).

2. Where any delay of repair is utilized pursuant to 40 CFR 65.105(d), report that delay of repair has occurred and report the number of instances of delay of repair.

3. If applicable, report the valve subgrouping information specified in 40 CFR 65.106(b)(4)(iv).

4. For pressure relief devices in gas/vapor service pursuant to 40 CFR 65.111(b) and for compressors pursuant to 40 CFR 65.112(f) that are to be operated at a leak detection instrument reading of less than 500 parts per million, report the results of all monitoring to show compliance conducted within the semiannual reporting period.

5. Report, if applicable, the initiation of a monthly monitoring program for valves pursuant to 40 CFR 65.106(b)(3)(i).

6. Report, if applicable, the initiation of a quality improvement program for pumps pursuant to 40 CFR 65.116.

7. Where the alternative means of emissions limitation for batch processes is utilized, report the information listed in 40 CFR 65.117(f).

8. Report the information listed in paragraph (a) of this section for the Initial Compliance Status Report for process units with later compliance dates. Report any revisions to items reported in an earlier Initial Compliance Status Report if the method of compliance has changed since the last report.

Section 6 - Insignificant Activities Requirements

1. Insignificant Activities Subject to Specific Regulations

Pursuant to 35 IAC 201.210 and 201.211, the following activities at the source constitute insignificant activities. Pursuant to Sections 9.1(d) and 39.5(6)(a) of the Act, the insignificant activities are subject to specific standards promulgated pursuant to Sections 111, 112, 165, or 173 of the Clean Air Act. The Permittee shall comply with the following applicable requirements:

Insignificant Activity	*Number of Units*	*Insignificant Activity Category*
Urea Plant fugitive emissions from components	1	35 IAC 201.210(a)(2) and (a)(3)
Ammonia Control Room CI Engine	1	35 IAC 201.210(a)(15)
Potable Water CI Engine	1	35 IAC 201.210(a)(15)
Emergency Diesel Electric Generator for the New Process Water Wells (788 bhp; Displacement: 14.9 liters; Date of Manufacture: May 2003; and Date of Installation: after June 12, 2006)	1	35 IAC 201.210(a)(16)
Emergency Diesel Electric Generator in the Powerhouse (380 bhp; Displacement: 10 liters; Date of Manufacture: May 2003; and Date of Installation: after June 12, 2006)	1	35 IAC 201.210(a)(16)

a. Applicable Requirements

Pursuant to Sections 39.5(7)(a), 39.5(7)(b), and 39.5(7)(d) of the Act, the Permittee shall comply with the following applicable requirements in addition to the applicable requirements in Condition 6.4:

i. National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart FFFF

A. Pursuant to 40 CFR 63 Subpart FFFF, the pump, valves, and connectors from the UF-85 resin storage tank to the point where it is injected into liquid urea enroute to the granulator is equipment in organic HAP service as defined in 40 CFR 63.2550. UF-85 resin is a liquid that includes formaldehyde exceeding 5% by weight. Pursuant to 40 CFR 63.2480 and Table 6 of 40 CFR 63 Subpart FFFF, the Permittee has selected to comply with 40 CFR Part 65 Subpart F. The requirements of 40 CFR Part 65 Subpart F are incorporated into the permit in Section 5.2.

ii. National Emission Standards for Hazardous Air Pollutants (NESHAP) Subpart ZZZZ

A. Pursuant to 40 CFR 63.6675, the Ammonia Control Room CI Engine and Potable Water CI Engine emergency generator are considered to be an emergency RICE, must meet all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary RICE must also comply with the requirements specified in B. below in order to be considered emergency stationary RICE.

I. The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc.

II. The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in 40 CFR 63.6640(f).

III. The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in 40 CFR 63.6640(f)(2)(ii) or (iii) and 40 CFR 63.6640(f)(4)(i) or (ii).

NESHAP Operational Requirements and Limits

B. Pursuant to 40 CFR 63.6640(f), if you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs B(I) through (IV) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs B.(I) through (IV) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs A(I) through (III) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

I. There is no time limit on the use of emergency stationary RICE in emergency situations.

II. You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs B.(II)(1) of this section for a maximum of 100 hours per calendar year.

1. Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

III. Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph B.(II) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

IV. Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance

and testing and emergency demand response provided in paragraph B.(II) of this section. Except as provided in paragraphs B.(IV)(1) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

1. The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

   a. The engine is dispatched by the local balancing authority or local transmission and distribution system operator.

   b. The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

   c. The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

   d. The power is provided only to the facility itself or to support the local transmission and distribution system.

   e. The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

C. Pursuant to 40 CFR 63.6655(f), if you own or operate any of the stationary RICE in paragraphs (C)(I) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in 40 CFR 63.6640(f)(2)(ii) or (iii) or 40 CFR 63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

   I. An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

D. Pursuant to 40 CFR 63.6640 and Table 2c, for each stationary CI RICE and Black start stationary RICE, the Permittee must perform the following:

I. Change oil and filter every 500 hours of operation or annually, whichever comes first.

II. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first.

III. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

IV. Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emissions limitations apply (40 CFR 60.6625(h)).

E. Pursuant to 40 CFR 63.6625(e), you must operate and maintain the stationary RICE according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

F. Pursuant to 40 CFR 63.6625(i), you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement 6.1.(a)(ii)(D)(I) of this section. The oil analysis must be performed at the same frequency specified for changing the oil in condition 6.1(a)(ii)(D)(I) of this section. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

G. Pursuant to 40 CFR 63.6605:

I. You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times.

II. At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures,

review of operation and maintenance records, and inspection of the source.

Compliance Method

Monitoring and Testing

H. Pursuant to 40 CFR 63.6625(f), if you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

I. Pursuant to 40 CFR 63.6640(a), the Permittee must

I. Operate and maintain the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or

II. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

Recordkeeping

J. Pursuant to 40 CFR 63.6655(a)(1), a copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in 40 CFR 63.10(b)(2)(xiv).

K. Pursuant to 40 CFR 63.6655(e), You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan.

L. Pursuant to 40 CFR 63.6660(a), your records must be in a form suitable and readily available for expeditious review according to 40 CFR 63.10(b) (1).

M. Pursuant to 40 CFR 63.6660(b), As specified in 40 CFR 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

N. Pursuant to 40 CFR 63.6660(c), You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1).

Reporting

O. Pursuant to 40 CFR 63.6640(b), you must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in 40 CFR 63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you

are meeting the required emission limitation applicable to your stationary RICE.

P. Pursuant to 40 CFR 63.6640(e), you must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

Q. Pursuant to 40 CFR 63.6650(f), Each affected source that has obtained a Title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

R. Pursuant to 40 CFR 63.6650(h), If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates for the purpose specified in condition 6.1(a)(ii)(B)(IV)(1), you must submit an annual report according to the requirements in paragraphs (R)(I) through (R)(III) of this section.

I. The report must contain the following information:

1. Company name and address where the engine is located.

2. Date of the report and beginning and ending dates of the reporting period.

3. Engine site rating and model year.

4. Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

5. Hours operated for the purposes specified in condition 6.2(a)(ii)(A)(II)(2) and (3), including the date, start time,

and end time for engine operation for the purposes specified in 6.2(a)(ii)(A)(II)(2) and (3).

6. Number of hours the engine is contractually obligated to be available for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii).

7. Hours spent for operation for the purpose specified in condition 6.2(a)(ii)(A)(4)(i), including the date, start time, and end time for engine operation for the purposes specified in condition 6.2(a)(ii)(A)(4)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

8. If there were no deviations from the fuel requirements in 40 CFR 63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.

9. If there were deviations from the fuel requirements in 40 CFR 63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

II. Annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

III. The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in 40 CFR 63.13.

S. Pursuant to 40 CFR 63.6604(b), beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in that operates for the purpose specified in condition 6.1(a)(ii)(B)(IV)(1), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

iii. Applicable Federal Requirements for Two Emergency Diesel Electric Generators

A. For the 788-bhp Emergency Diesel Electric Generator for the New Process Water Wells:

I. Pursuant to 40 CFR 63.6590(b)(1)(i), this generator/engine does not have to meet the requirements of 40 CFR Part 63 Subpart ZZZZ and Subpart A except for the initial notification requirements of 40 CFR 63.6645(f), as further specified below.

II. Pursuant to 40 CFR 63.6645(f), the Permittee must submit to the Illinois EPA an Initial Notification that shall include the information in 40 CFR 63.9(b)(2)(i) through (v), and a statement that the stationary RICE has no additional requirements and explain the

basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

B. For the 380-bhp Emergency Diesel Electric Generator in the Powerhouse:

I. Pursuant to 40 CFR 63.6590(C)(6), this generator/engine must meet the requirements of 40 CFR Part 63 Subpart ZZZZ by meeting the requirements of 40 CFR Part 60 Subpart IIII.

C. Pursuant to 40 CFR 60.4200(a)(2)(i), both the 788-bhp and 380-bhp emergency diesel electric generators are not subject to 40 CFR Part 60 Subpart IIII, because although construction of these two generators commences after July 11, 2005, they are neither manufactured after April 1, 2006 and nor fire pump engines.

2. Insignificant Activities in 35 IAC 201.210(a)

In addition to any insignificant activities identified in Condition 6.1, the following additional activities at the source constitute insignificant activities pursuant to 35 IAC 201.210 and 201.211:

Insignificant Activity	*Number of Units*	*Insignificant Activity Category*
CO2 Plant Venting	1	35 IAC 201.210(a)(1) and 201.211
MR-61 Stack	1	35 IAC 201.210(a)(2) or (a)(3)
Compressor Bleed Down Vents C-2A, C-2B, C-2C	3	35 IAC 201.210(a)(2) or (a)(3)
UF-85 Storage Tank	1	35 IAC 201.210(a)(2) or (a)(3)
Build Area Loading	1	35 IAC 201.210(a)(2) or (a)(3)
Lime and Rock Salt Unloading	1	35 IAC 201.210(a)(2) or (a)(3)
Urea 99 Tank	1	35 IAC 201.210(a)(2) or (a)(3)
Direct combustion units used for comfort heating and fuel combustion emission units as further detailed in 35 IAC 201.210(a)(4).	22	35 IAC 201.210(a)(4)
Storage tanks < 10,000 gallon with annual throughput < 100,000 gallon (not storing gasoline or any material listed as a HAP).	1	35 IAC 201.210(a)(10)(b)
Storage tanks of virgin or rerefined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oil.	2	35 IAC 201.210(a)(11)
Gas turbines and stationary reciprocating internal combustion engines < 112 kW (150 HP).	0	35 IAC 201.210(a)(15)
Gas Turbines and Engines between 112 KW and 1,118 KW (150 and 1,500 HP) that are emergency or standby units.	2	35 IAC 201.210(a)(16)
Any size storage tanks containing exclusively soaps, detergents, surfactants, waxes, glycerin, vegetable oils, greases, animal fats, sweetener, corn syrup, aqueous salt solutions, or aqueous caustic solutions where an organic solvent has not been mixed.	1	35 IAC 201.210(a)(17)

3. Insignificant Activities in 35 IAC 201.210(b)

Pursuant to 35 IAC 201.210, the source has identified insignificant activities as listed in 35 IAC 201.210(b)(1) through (28) as being present at the source. The source is not required to individually list the activities.

4. Applicable Requirements

Insignificant activities in Conditions 6.1 and 6.2 are subject to the following general regulatory limits notwithstanding their status as insignificant activities. The Permittee shall comply with the following requirements, as applicable:

a. Pursuant to 35 IAC 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 IAC 212.122, except as provided in 35 IAC 212.123(b).

b. Pursuant to 35 IAC 212.321 or 212.322 (see Conditions 7.2(a) and (b)), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units at a source or premises, exceed the allowable emission rates specified 35 IAC 212.321 or 212.322 and 35 IAC Part 266.

c. Pursuant to 35 IAC 214.301, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to exceed 2,000 ppm, except as provided in 35 IAC Part 214.

d. Pursuant to 35 IAC 215.301, no person shall cause or allow the discharge of more than 8 lbs/hr of organic material into the atmosphere from any emission source, except as provided in 35 IAC 215.302, 215.303, 215.304 and the following exception: If no odor nuisance exists the limitation of 35 IAC 215 Subpart K shall apply only to photochemically reactive material.

e. Pursuant to 35 IAC 215.122(b), no person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 250 gal, unless such tank is equipped with a permanent submerged loading pipe, submerged fill, or an equivalent device approved by the IEPA according to 35 IAC Part 201 or unless such tank is a pressure tank as described in 35 IAC 215.121(a) or is fitted with a recovery system as described in 35 IAC 215.121(b)(2). Exception as provided in 35 IAC 215.122(c): If no odor nuisance exists the limitations of 35 IAC 215.122 shall only apply to the loading of volatile organic liquid with a vapor pressure of 2.5 psia or greater at 70°F.

5. Compliance Method

Pursuant to Section 39.5(7)(b) of the Act, the source shall maintain records of the following items for the insignificant activities in Conditions 6.1 and 6.2:

a. List of all insignificant activities, including insignificant activities added as specified in Condition 6.6, the categories the insignificant activities fall under, and supporting calculations as needed for any insignificant activities listed in 35 IAC 201.210(a)(1) through (3).

b. Potential to emit emission calculations before any air pollution control device for any insignificant activities listed in 35 IAC 201.210(a)(1) through (3).

6. Notification Requirements for Insignificant Activities

The source shall notify the IEPA of the addition of insignificant activities, as follows:

a. **Notification 7 Days in Advance**

i. Pursuant to 35 IAC 201.212(b), for the addition of an insignificant activity that would be categorized under 35 IAC 201.210(a)(1) and 201.211 and is not currently identified in Conditions 6.1 or 6.2, a notification to the IEPA Permit Section 7 days in advance of the addition of the insignificant activity is required.

Addresses are included in Attachment 3. The notification shall include the following pursuant to 35 IAC 201.211(b):

A. A description of the emission unit including the function and expected operating schedule of the unit.

B. A description of any air pollution control equipment or control measures associated with the emission unit.

C. The emissions of regulated air pollutants in lb/hr and ton/yr.

D. The means by which emissions were determined or estimated.

E. The estimated number of such emission units at the source.

F. Other information upon which the applicant relies to support treatment of such emission unit as an insignificant activity.

ii. Pursuant to 35 IAC 201.212(b), for the addition of an insignificant activity that would be categorized under 35 IAC 201.210(a)(2) through 201.210(a)(18) and is not currently identified in Conditions 6.1 or 6.2, a notification to the IEPA Permit Section 7 days in advance of the addition of the insignificant activity is required. Addresses are included in Attachment 3.

iii. Pursuant to Sections 39.5(12)(a)(i)(b) and 39.5(12)(b)(iii) of the Act, the permit shield described in Section 39.5(7)(j) of the Act (see Condition 2.7) shall not apply to any addition of an insignificant activity noted above.

b. **Notification Required at Renewal**

Pursuant to 35 IAC 201.212(a) and 35 IAC 201.146(kkk), for the addition of an insignificant activity that would be categorized under 35 IAC 201.210(a) and is currently identified in Conditions 6.1 or 6.2, a notification is not required until the renewal of this permit.

c. **Notification Not Required**

Pursuant to 35 IAC 201.212(c) and 35 IAC 201.146(kkk), for the addition of an insignificant activity that would be categorized under 35 IAC 201.210(b) as described in Condition 6.3, a notification is not required.

Section 7 - Other Requirements

1. Testing

a. Pursuant to Section 39.5(7)(a) of the Act, a written test protocol shall be submitted at least sixty (60) days prior to the actual date of testing, unless it is required otherwise in applicable state or federal statutes. The IEPA may at the discretion of the Compliance Section Manager (or designee) accept protocol less than 60 days prior to testing provided it does not interfere with the IEPA's ability to review and comment on the protocol and does not deviate from the applicable state or federal statutes. The protocol shall be submitted to the IEPA, Compliance Section and IEPA, Stack Test Specialist for its review. Addresses are included in Attachment 3. This protocol shall describe the specific procedures for testing, including as a minimum:

i. The name and identification of the emission unit(s) being tested.

ii. Purpose of the test, i.e., permit condition requirement, IEPA or USEPA requesting test.

iii. The person(s) who will be performing sampling and analysis and their experience with similar tests.

iv. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the emission unit and any control equipment will be determined.

v. The specific determinations of emissions and operation which are intended to be made, including sampling and monitoring locations.

vi. The test method(s) that will be used, with the specific analysis method, if the method can be used with different analysis methods. Include if emission tests averaging of 35 IAC 283 will be used.

vii. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with detailed justification. This shall be included as a waiver of the test procedures. If a waiver has already been obtained by the IEPA or USEPA, then the waiver shall be submitted.

viii. Any proposed use of an alternative test method, with detailed justification. This shall be included as a waiver of the test procedures. If a waiver has already been obtained by the IEPA or USEPA, then the waiver shall be submitted.

ix. Sampling of materials, QA/QC procedures, inspections, etc.

x. Notwithstanding conditions 7.1 above, a test plan need not be submitted under the following circumstances:

1. Where the Permittee intends to utilize a test plan previously submitted. However, the Permittee must submit a notice containing the following:

A. The purpose of the test;

B. Date the previously submitted test plan was submitted; and

C. A statement that the source is relying on a previously submitted test plan.

2. Where the source intends to use a standard test method or procedure. However, the Permittee must submit a notice containing the following:

A. The purpose of the test; and

B. The standard test method or procedure to be used.

b. The IEPA, Compliance Section shall be notified prior to these tests to enable the IEPA to observe these tests pursuant to Section 39.5(7)(a) of the Act as follows:

i. Notification of the expected date of testing shall be submitted in writing a minimum of thirty (30) days prior to the expected test date, unless it is required otherwise in applicable state or federal statutes.

ii. Notification of the actual date and expected time of testing shall be submitted in writing a minimum of five (5) working days prior to the actual date of the test. The IEPA may at its discretion of the Compliance Section Manager (or designee) accept notifications with shorter advance notice provided such notifications will not interfere with the IEPA's ability to observe testing.

c. Copies of the Final Report(s) for these tests shall be submitted to the IEPA, Compliance Section within fourteen (14) days after the test results are compiled and finalized but no later than ninety (90) days after completion of the test, unless it is required otherwise in applicable state or federal statutes or the IEPA may at the discretion of the Compliance Section Manager (or designee) agree upon an alternative date upon in advance pursuant to Section 39.5(7)(a) of the Act. The Final Report shall include as a minimum:

i. General information including emission unit(s) tested.

ii. A summary of results.

iii. Discussion of conditions during each test run (malfunction/breakdown, startup/shutdown, abnormal processing, etc.).

iv. Description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule.

v. Detailed description of test conditions, including:

A. Process information, i.e., mode(s) of operation, process rate, e.g. fuel or raw material consumption.

B. Control equipment information, i.e., equipment condition and operating parameters during testing.

C. A discussion of any preparatory actions taken, i.e., inspections, maintenance and repair.

vi. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.

vii. An explanation of any discrepancies among individual tests or anomalous data.

viii. Results of the sampling of materials, QA/QC procedures, inspections, etc.

ix. Discussion of whether protocol was followed and description of any changes to the protocol if any occurred.

x. Demonstration of compliance showing whether test results are in compliance with applicable state or federal statutes.

d. Copies of all test reports and other test related documentation shall be kept on site as required by Condition 2.5(b) pursuant to Section 39.5(7)(e)(ii) of the Act.

2. PM Process Weight Rate Requirements

a. **New Process Emission Units - 35 IAC 212.321**

New Process Emission Units for Which Construction or Modification Commenced on or After April 14, 1972 [35 IAC 212.321].

i. No person shall cause or allow the emission of PM into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of PM from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 IAC 212.321(c). See Condition 7.2(a)(iii) below. [35 IAC 212.321(a)]

ii. Interpolated and extrapolated values of the data in 35 IAC 212.321(c) shall be determined by using the equation [35 IAC 212.321(b)]:

$$E = A(P)^B$$

Where:

P = Process weight rate (T/hr)
E = Allowable emission rate (lbs/hr)

A. Process weight rates of less than 450 T/hr:

A = 2.54
B = 0.53

B. Process weight rates greater than or equal to 450 T/hr:

A = 24.8
B = 0.16

iii. Limits for New Process Emission Units [35 IAC 212.321(c)]:

P (T/hr)	E (lbs/hr)	P (T/hr)	E (lbs/hr)
0.05	0.55	25.00	14.00
0.10	0.77	30.00	15.60
0.20	1.10	35.00	17.00
0.30	1.35	40.00	18.20
0.40	1.58	45.00	19.20
0.50	1.75	50.00	20.50
0.75	2.40	100.00	29.50
1.00	2.60	150.00	37.00
2.00	3.70	200.00	43.00
3.00	4.60	250.00	48.50
4.00	5.35	300.00	53.00
5.00	6.00	350.00	58.00
10.00	8.70	400.00	62.00
15.00	10.80	450.00	66.00
20.00	12.50	500.00	67.00

b. **Existing Process Emission Units - 35 IAC 212.322**

Existing Process Emission Units for Which Construction or Modification Commenced Prior to April 14, 1972 [35 IAC 212.322].

i. No person shall cause or allow the emission of PM into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of PM from all other similar process emission units at a source or premises, exceeds the allowable emission rates specified in 35 IAC 212.322(c)). See Condition 7.2(b)(iii) below. [35 IAC 212.322(a)]

ii. Interpolated and extrapolated values of the data in 35 IAC 212.322(c) shall be determined by using the equation [35 IAC 212.322(b)]:

$$E = C + A(P)^B$$

Where:

P = Process weight rate (T/hr)
E = Allowable emission rate (lbs/hr)

A. Process weight rates of less than 30 T/hr:

A = 4.10
B = 0.67
C = 0

B. Process weight rates greater than or equal to 30 T/hr:

A = 55.0
B = 0.11
C = -40.0

iii. Limits for Existing Process Emission Units [35 IAC 212.322(c)]:

P (T/hr)	E (lbs/hr)	P (T/hr)	E (lbs/hr)
0.05	0.55	25.00	35.40
0.10	0.87	30.00	40.00
0.2	1.40	35.00	41.30
0.30	1.83	40.00	42.50
0.40	2.22	45.00	43.60
0.50	2.58	50.00	44.60
0.75	3.38	100.00	51.20
1.00	4.10	150.00	55.40
2.00	6.52	200.00	58.60
3.00	8.56	250.00	61.00
4.00	10.40	300.00	63.10
5.00	12.00	350.00	64.90
10.00	19.20	400.00	66.20
15.00	25.20	450.00	67.70
20.00	30.50	500.00	69.00

3. 40 CFR 63 Subpart A Requirements (NESHAP)

a. 40 CFR 63 Subpart A and Subpart FFFF - National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing

Pursuant to 40 CFR 63 Subpart A and Subpart FFFF, the Permittee shall comply with the following applicable General Provisions as indicated:

General Provision Citation	*General Provision Applicable?*	*Subject of Citation*	*Explanation (if required)*
40 CFR 63.1	Yes	Applicability	Yes.
40 CFR 63.2	Yes	Definitions	Yes.
40 CFR 63.3	Yes	Units and Abbreviations	Yes.
40 CFR 63.4	Yes	Prohibited Activities	Yes.
40 CFR 63.5	Yes	Construction/Reconstruction	Yes.
40 CFR 63.6(a)	Yes	Applicability	Yes.
40 CFR 63.6(b)(1)-(4)	Yes	Compliance Dates for New and Reconstructed sources	Yes.
40 CFR 63.6(b)(5)	Yes	Notification	Yes.
40 CFR 63.6(b)(6)	No	[Reserved]	
40 CFR 63.6(b)(7)	Yes	Compliance Dates for New and Reconstructed Area Sources That Become Major	Yes.
40 CFR 63.6(c)(1)-(2)	Yes	Compliance Dates for Existing Sources	Yes.
40 CFR 63.6(c)(3)-(4)	No	[Reserved]	
40 CFR 63.6(c)(5)	Yes	Compliance Dates for Existing Area Sources That Become Major	Yes
40 CFR 63.6(d)	No	[Reserved]	
40 CFR 63.6(e)(1)-(2)	Yes	Operation & Maintenance	Yes.
40 CFR 63.6(e)(3)(i), (ii), and (v) through (viii)	Yes	Startup, Shutdown, Malfunction Plan (SSMP)	Yes, except information regarding Group 2 emission points and equipment leaks is not required in the SSMP, as specified in 40 CFR 63.2525(j).
40 CFR 63.6(e)(3)(iii) and (iv)	No	Recordkeeping and Reporting During SSM	No, 40 CFR 63.998(d)(3) and 63.998(c)(1)(ii)(D) through (G) specify the recordkeeping requirement for SSM events, and 40 CFR 63.2520(e)(4) specifies reporting requirements.
40 CFR 63.6(e)(3)(ix)	Yes	SSMP incorporation into title V permit	Yes.
40 CFR 63.6(f)(1)	Yes	Compliance Except During SSM	Yes.

General Provision Citation	*General Provision Applicable?*	*Subject of Citation*	*Explanation (if required)*
40 CFR 63.6(f)(2)-(3)	Yes	Methods for Determining Compliance	Yes.
40 CFR 63.6(g)(1)-(3)	Yes	Alternative Standard	Yes.
40 CFR 63.6(h)	Yes	Opacity/Visible Emission (VE) Standards	Only for flares for which Method 22 observations are required as part of a flare compliance assessment.
40 CFR 63.6(i)(1)-(14)	Yes	Compliance Extension	Yes.
40 CFR 63.6(j)	Yes	Presidential Compliance Exemption	Yes.
40 CFR 63.7(a)(1)-(2)	Yes	Performance Test Dates	Yes, except substitute 150 days for 180 days.
40 CFR 63.7(a)(3)	Yes	Section 114 Authority	Yes, and this paragraph also applies to flare compliance assessments as specified under 40 CFR 63.997(b)(2).
40 CFR 63.7(b)(1)	Yes	Notification of Performance Test	Yes.
40 CFR 63.7(b)(2)	Yes	Notification of Rescheduling	Yes.
40 CFR 63.7(c)	Yes	Quality Assurance/Test Plan	Yes, except the test plan must be submitted with the notification of the performance test if the control device controls batch process vents.
40 CFR 63.7(d)	Yes	Testing Facilities	Yes.
40 CFR 63.7(e)(1)	Yes	Conditions for Conducting Performance Tests	Yes, except that performance tests for batch process vents must be conducted under worst-case conditions as specified in 40 CFR 63.2460.
40 CFR 63.7(e)(2)	Yes	Conditions for Conducting Performance Tests	Yes.
40 CFR 63.7(e)(3)	Yes	Test Run Duration	Yes.
40 CFR 63.7(f)	Yes	Alternative Test Method	Yes.
40 CFR 63.7(g)	Yes	Performance Test Data Analysis	Yes.
40 CFR 63.7(h)	Yes	Waiver of Tests	Yes.
40 CFR 63.8(a)(1)	Yes	Applicability of Monitoring Requirements	Yes.
40 CFR 63.8(a)(2)	Yes	Performance Specifications	Yes.
40 CFR 63.8(a)(3)	No	[Reserved]	
40 CFR 63.8(a)(4)	Yes	Monitoring with Flares	Yes.
40 CFR 63.8(b)(1)	Yes	Monitoring	Yes.
40 CFR 63.8(b)(2)-(3)	Yes	Multiple Effluents and Multiple Monitoring Systems	Yes.

General Provision Citation	*General Provision Applicable?*	*Subject of Citation*	*Explanation (if required)*
40 CFR 63.8(c)(1)	Yes	Monitoring System Operation and Maintenance	Yes.
40 CFR 63.8(c)(1)(i)	Yes	Routine and Predictable SSM	Yes.
40 CFR 63.8(c)(1)(ii)	Yes	SSM not in SSMP	Yes.
40 CFR 63.8(c)(1)(iii)	Yes	Compliance with Operation and Maintenance Requirements	Yes.
40 CFR 63.8(c)(2)-(3)	Yes	Monitoring System Installation	Yes.
40 CFR 63.8(c)(4)	Yes	CMS Requirements	Only for CEMS. Requirements for CPMS are specified in referenced subparts G and SS of part 63. Requirements for COMS do not apply because subpart FFFF does not require continuous opacity monitoring systems (COMS).
40 CFR 63.8(c)(4)(i)	No	COMS Measurement and Recording Frequency	No; subpart FFFF does not require COMS.
40 CFR 63.8(c)(4)(ii)	Yes	CEMS Measurement and Recording Frequency	Yes.
40 CFR 63.8(c)(5)	No	COMS Minimum Procedures	No. Subpart FFFF does not contain opacity or VE limits.
40 CFR 63.8(c)(6)	Yes	CMS Requirements	Only for CEMS; requirements for CPMS are specified in referenced subparts G and SS of this part 63. Requirements for COMS do not apply because subpart FFFF does not require COMS.
40 CFR 63.8(c)(7)-(8)	Yes	CMS Requirements	Only for CEMS. Requirements for CPMS are specified in referenced subparts G and SS of part 63. Requirements for COMS do not apply because subpart FFFF does not require COMS.
40 CFR 63.8(d)	Yes	CMS Quality Control	Only for CEMS.
40 CFR 63.8(e)	Yes	CMS Performance Evaluation	Only for CEMS. Section 63.8(e)(5)(ii) does not apply because subpart FFFF does not require COMS.
40 CFR 63.8(f)(1)-(5)	Yes	Alternative Monitoring Method	Yes, except you may also request approval using the precompliance report.
40 CFR 63.8(f)(6)	Yes	Alternative to Relative Accuracy Test	Only applicable when using CEMS to demonstrate compliance, including the alternative standard in 40 CFR 63.2505.
40 CFR 63.8(g)(1)-(4)	Yes	Data Reduction	Only when using CEMS, including for the alternative standard in 40 CFR 63.2505, except that the requirements for COMS do not apply because subpart FFFF has no opacity or VE limits, and 40 CFR 63.8(g)(2) does not apply because data reduction requirements for CEMS are specified in 40 CFR 63.2450(j).

General Provision Citation	*General Provision Applicable?*	*Subject of Citation*	*Explanation (if required)*
40 CFR 63.8(g)(5)	No	Data Reduction	No. Requirements for CEMS are specified in 40 CFR 63.2450(j). Requirements for CPMS are specified in referenced subparts G and SS of this part 63.
40 CFR 63.9(a)	Yes	Notification Requirements	Yes.
40 CFR 63.9(b)(1)-(5)	Yes	Initial Notifications	Yes.
40 CFR 63.9(c)	Yes	Request for Compliance Extension	Yes.
40 CFR 63.9(d)	Yes	Notification of Special Compliance Requirements for New Source	Yes.
40 CFR 63.9(e)	Yes	Notification of Performance Test	Yes.
40 CFR 63.9(f)	No	Notification of VE/Opacity Test	No. Subpart FFFF does not contain opacity or VE limits.
40 CFR 63.9(g)	Yes	Additional Notifications When Using CMS	Only for CEMS. Section 63.9(g)(2) does not apply because subpart FFFF does not require COMS.
63.9(h)(1)-(6)	Yes	Notification of Compliance Status	Yes, except subpart FFFF has no opacity or VE limits, and 63.9(h)(2)(i)(A) through (G) and (ii) do not apply because 63.2520(d) specifies the required contents and due date of the notification of compliance status report.
40 CFR 63.9(i)	Yes	Adjustment of Submittal Deadlines	Yes.
40 CFR 63.9(j)	No	Change in Previous Information	No, 40 CFR 63.2520(e) specifies reporting requirements for process changes.
40 CFR 63.10(a)	Yes	Recordkeeping/Reporting	Yes.
40 CFR 63.10(b)(1)	Yes	Recordkeeping/Reporting	Yes.
40 CFR 63.10(b)(2)(i)-(ii), (iv), (v)	No	Records related to SSM	No, 40 CFR 40 CFR 63.998(d)(3) and 63.998(c)(1)(ii)(D) through (G) specify recordkeeping requirements for periods of SSM.
40 CFR 63.10(b)(2)(iii)	Yes	Records related to maintenance of air pollution control equipment	Yes.
40 CFR 63.10(b)(2)(vi), (x), and (xi)	Yes	CMS Records	Only for CEMS; requirements for CPMS are specified in referenced subparts G and SS of this part 63.
40 CFR 63.10(b)(2)(vii)-(ix)	Yes	Records	Yes.
40 CFR 63.10(b)(2)(xii)	Yes	Records	Yes.
40 CFR 63.10(b)(2)(xiii)	Yes	Records	Only for CEMS.
40 CFR 63.10(b)(2)(xiv)	Yes	Records	Yes.

General Provision Citation	*General Provision Applicable?*	*Subject of Citation*	*Explanation (if required)*
40 CFR 63.10(b)(3)	Yes	Records	Yes.
40 CFR 63.10(c)(1)-(6),(9)-(15)	Yes	Records	Only for CEMS. Recordkeeping requirements for CPMS are specified in referenced subparts G and SS of this part 63.
40 CFR 63.10(c)(7)-(8)	No	Records	No. Recordkeeping requirements are specified in 40 CFR 63.2525.
40 CFR 63.10(d)(1)	Yes	General Reporting Requirements	Yes.
40 CFR 63.10(d)(2)	Yes	Report of Performance Test Results	Yes.
40 CFR 63.10(d)(3)	No	Reporting Opacity or VE Observations	No. Subpart FFFF does not contain opacity or VE limits.
40 CFR 63.10(d)(4)	Yes	Progress Reports	Yes.
40 CFR 63.10(d)(5)(i)	No	Periodic Startup, Shutdown, and Malfunction Reports	No, 40 CFR 63.2520(e)(4) and (5) specify the SSM reporting requirements.
40 CFR 63.10(d)(5)(ii)	No	Immediate SSM Reports	No.
40 CFR 63.10(e)(1)	Yes	Additional CEMS Reports	Yes.
40 CFR 63.10(e)(2)(i)	Yes	Additional CMS Reports	Only for CEMS.
40 CFR 63.10(e)(2)(ii)	No	Additional COMS Reports	No. Subpart FFFF does not require COMS.
40 CFR 63.10(e)(3)	No	Reports	No. Reporting requirements are specified in 40 CFR 63.2520.
40 CFR 63.10(e)(3)(i)-(iii)	No	Reports	No. Reporting requirements are specified in 40 CFR 63.2520.
40 CFR 63.10(e)(3)(iv)-(v)	No	Excess Emissions Reports	No. Reporting requirements are specified in 40 CFR 63.2520.
40 CFR 63.10(e)(3)(iv)-(v)	No	Excess Emissions Reports	No. Reporting requirements are specified in 40 CFR 63.2520.
40 CFR 63.10(e)(3)(vi)-(viii)	No	Excess Emissions Report and Summary Report	No. Reporting requirements are specified in 40 CFR 63.2520.
40 CFR 63.10(e)(4)	No	Reporting COMS data	No. Subpart FFFF does not contain opacity or VE limits.
40 CFR 63.10(f)	Yes	Waiver for Recordkeeping/Reporting	Yes.
40 CFR 63.11	Yes	Control device requirements for flares and work practice requirements for equipment leaks	Yes.
40 CFR 63.12	Yes	Delegation	Yes.
40 CFR 63.13	Yes	Addresses	Yes.
40 CFR 63.14	Yes	Incorporation by Reference	Yes.
40 CFR 63.15	Yes	Availability of Information	Yes.

b. 40 CFR 63 Subpart A and DDDDD - National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

Pursuant to 40 CFR 63 Subpart A and DDDDD, the Permittee shall comply with the following applicable General Provisions as indicated:

General Provision Citation	*General Provision Applicable?*	*Subject of Citation*	*Explanation (if required)*
40 CFR 63.1	Yes	Applicability	Yes.
40 CFR 63.2	Yes	Definitions	Yes. Additional terms defined in 40 CFR 63.7575
40 CFR 63.3	Yes	Units and Abbreviations	Yes.
40 CFR 63.4	Yes	Prohibited Activities and Circumvention	Yes.
40 CFR 63.5	Yes	Preconstruction Review and Notification Requirements	Yes.
40 CFR 63.6(a), (b)(1)-(b)(5), (b)(7), (c)	Yes	Compliance with Standards and Maintenance Requirements	Yes.
40 CFR 63.6(e)(1)(i)	No	General duty to minimize emissions.	No. See 40 CFR 63.7500(a)(3) for the general duty requirement.
40 CFR 63.6(e)(1)(ii)	No	Requirement to correct malfunctions as soon as practicable.	No.
40 CFR 63.6(e)(3)	No	Startup, shutdown, and malfunction plan requirements.	No.
40 CFR 63.6(f)(1)	No	Startup, shutdown, and malfunction exemptions for compliance with non-opacity emission standards.	No.
40 CFR 63.6(f)(2) and (3)	Yes	Compliance with non-opacity emission standards.	Yes.
40 CFR 63.6(g)	Yes	Use of alternative standards	Yes, except 40 CFR 63.7555(d)(13) specifies the procedure for application and approval of an alternative timeframe with the PM controls requirement in the startup work practice (2).
40 CFR 63.6(h)(1)	No	Startup, shutdown, and malfunction exemptions to opacity standards.	No. See 40 CFR 63.7500(a).
40 CFR 63.6(h)(2) to (h)(9)	No	Determining compliance with opacity emission standards	No. Subpart DDDDD specifies opacity as an operating limit not an emission standard.
40 CFR 63.6(i)	Yes	Extension of compliance	Yes. Note: Facilities may also request extensions of compliance for the installation of combined heat and power, waste heat recovery, or gas pipeline or fuel feeding infrastructure as a means of complying with this subpart.
40 CFR 63.6(j)	Yes	Presidential exemption.	Yes.
40 CFR 63.7(a), (b), (c), and (d)	Yes	Performance Testing Requirements	Yes.
40 CFR 63.7(e)(1)	No	Conditions for conducting performance tests	No. Subpart DDDDD specifies conditions for conducting performance tests at 40 CFR 63.7520(a) to (c).

General Provision Citation	*General Provision Applicable?*	*Subject of Citation*	*Explanation (if required)*
40 CFR 63.7(e)(2)-(e)(9), (f), (g), and (h)	Yes	Performance Testing Requirements	Yes.
40 CFR 63.8(a) and (b)	Yes	Applicability and Conduct of Monitoring	Yes.
40 CFR 63.8(c)(1)	Yes	Operation and maintenance of CMS	Yes.
40 CFR 63.8(c)(1)(i)	No	General duty to minimize emissions and CMS operation	No. See 40 CFR 63.7500(a)(3).
40 CFR 63.8(c)(1)(ii)	Yes	Operation and maintenance of CMS	Yes.
40 CFR 63.8(c)(1)(iii)	No	Startup, shutdown, and malfunction plans for CMS	No.
40 CFR 63.8(c)(2) to (c)(9)	Yes	Operation and maintenance of CMS	Yes.
40 CFR 63.8(d)(1) and (2)	Yes	Monitoring Requirements, Quality Control Program	Yes.
40 CFR 63.8(d)(3)	Yes	Written procedures for CMS	Yes, except for the last sentence, which refers to a startup, shutdown, and malfunction plan. Startup, shutdown, and malfunction plans are not required.
40 CFR 63.8(e)	Yes	Performance evaluation of a CMS	Yes.
40 CFR 63.8(f)	Yes	Use of an alternative monitoring method.	Yes.
40 CFR 63.8(g)	Yes	Reduction of monitoring data	Yes.
40 CFR 63.9	Yes	Notification Requirements	Yes.
40 CFR 63.10(a), (b)(1)	Yes	Recordkeeping and Reporting Requirements	Yes.
40 CFR 63.10(b)(2)(i)	Yes	Recordkeeping of occurrence and duration of startups or shutdowns	Yes.
40 CFR 63.10(b)(2)(ii)	No	Recordkeeping of malfunctions	No. See 40 CFR 63.7555(d)(7) for recordkeeping of occurrence and duration and 40 CFR 63.7555(d)(8) for actions taken during malfunctions.
40 CFR 63.10(b)(2)(iii)	Yes	Maintenance records	Yes.
40 CFR 63.10(b)(2)(iv) and (v)	No	Actions taken to minimize emissions during startup, shutdown, or malfunction	No.
40 CFR 63.10(b)(2)(vi)	Yes	Recordkeeping for CMS malfunctions	Yes.
40 CFR 63.10(b)(2)(vii) to (xiv)	Yes	Other CMS requirements	Yes.
40 CFR 63.10(b)(3)	No	Recordkeeping requirements for applicability determinations	No.
40 CFR 63.10(c)(1) to (9)	Yes	Recordkeeping for sources with CMS	Yes.

General Provision Citation	*General Provision Applicable?*	*Subject of Citation*	*Explanation (if required)*
40 CFR 63.10(c)(10) and (11)	No	Recording nature and cause of malfunctions, and corrective actions	No. See 40 CFR 63.7555(d)(7) for recordkeeping of occurrence and duration and 40 CFR 63.7555(d)(8) for actions taken during malfunctions.
40 CFR 63.10(c)(12) and (13)	Yes	Recordkeeping for sources with CMS	Yes.
40 CFR 63.10(c)(15)	No	Use of startup, shutdown, and malfunction plan	No.
40 CFR 63.10(d)(1) and (2)	Yes	General reporting requirements	Yes.
40 CFR 63.10(d)(3)	No	Reporting opacity or visible emission observation results	No.
40 CFR 63.10(d)(4)	Yes	Progress reports under an extension of compliance	Yes.
40 CFR 63.10(d)(5)	No	Startup, shutdown, and malfunction reports	No. See 40 CFR 63.7550(c)(11) for malfunction reporting requirements.
40 CFR 63.10(e)	Yes	Additional reporting requirements for sources with CMS	Yes.
40 CFR 63.10(f)	Yes	Waiver of recordkeeping or reporting requirements	Yes.
40 CFR 63.11	No	Control Device Requirements	No.
40 CFR 63.12	Yes	State Authority and Delegation	Yes.
40 CFR 63.13-63.16	Yes	Addresses, Incorporation by Reference, Availability of Information, Performance Track Provisions	Yes.
40 CFR 63.1(a)(5), (a)(7)-(a)(9), (b)(2), (c)(3)-(4), (d), 63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv), 63.8(a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2)-(4), (c)(9).	No	Reserved	No.

c. **40 CFR 63 Subpart A and Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines**

Pursuant to 40 CFR 63 Subpart A and 40 CFR 63 Subpart ZZZZ, the Permittee shall comply with the following applicable General Provisions as indicated:

General Provision Citation	*General Provision Applicable?*	*Subject of Citation*	*Explanation (if required)*
40 CFR 63.1	Yes.	General applicability of the General Provisions	
40 CFR 63.2	Yes	Definitions	Additional terms defined in 40 CFR 63.6675.
40 CFR 63.3	Yes.	Units and abbreviations	
40 CFR 63.4	Yes.	Prohibited activities and circumvention	
40 CFR 63.5	Yes.	Construction and reconstruction	
40 CFR 63.6(a)	Yes.	Applicability	
40 CFR 63.6(b)(1)-(4)	Yes.	Compliance dates for new and reconstructed sources	
40 CFR 63.6(b)(5)	Yes.	Notification	
40 CFR 63.6(b)(6)		[Reserved]	
40 CFR 63.6(b)(7)	Yes.	Compliance dates for new and reconstructed area sources that become major sources	
40 CFR 63.6(c)(1)-(2)	Yes.	Compliance dates for existing sources	
40 CFR 63.6(c)(3)-(4)		[Reserved]	
40 CFR 63.6(c)(5)	Yes.	Compliance dates for existing area sources that become major sources	
40 CFR 63.6(d)		[Reserved]	
40 CFR 63.6(e)	No.	Operation and maintenance	
40 CFR 63.6(f)(1)	No.	Applicability of standards	
40 CFR 63.6(f)(2)	Yes.	Methods for determining compliance	
40 CFR 63.6(f)(3)	Yes.	Finding of compliance	
40 CFR 63.6(g)(1)-(3)	Yes.	Use of alternate standard	
40 CFR 63.6(h)	No	Opacity and visible emission standards	Subpart ZZZZ does not contain opacity or visible emission standards.
40 CFR 63.6(i)	Yes.	Compliance extension procedures and criteria	
40 CFR 63.6(j)	Yes.	Presidential compliance exemption	
40 CFR 63.7(a)(1)-(2)	Yes	Performance test dates	Subpart ZZZZ contains performance test dates at

General Provision Citation	*General Provision Applicable?*	*Subject of Citation*	*Explanation (if required)*
			40 CFR 40 CFR 63.6610, 63.6611, and 63.6612.
40 CFR 63.7(a)(3)	Yes.	CAA section 114 authority	
40 CFR 63.7(b)(1)	Yes	Notification of performance test	Except that 40 CFR 63.7(b)(1) only applies as specified in 40 CFR 63.6645.
40 CFR 63.7(b)(2)	Yes	Notification of rescheduling	Except that 40 CFR 63.7(b)(2) only applies as specified in 40 CFR 63.6645.
40 CFR 63.7(c)	Yes	Quality assurance/test plan	Except that 40 CFR 63.7(c) only applies as specified in 40 CFR 63.6645.
40 CFR 63.7(d)	Yes.	Testing facilities	
40 CFR 63.7(e)(1)	No.	Conditions for conducting performance tests	Subpart ZZZZ specifies conditions for conducting performance tests at 40 CFR 63.6620.
40 CFR 63.7(e)(2)	Yes	Conduct of performance tests and reduction of data	Subpart ZZZZ specifies test methods at 40 CFR 63.6620.
40 CFR 63.7(e)(3)	Yes.	Test run duration	
40 CFR 63.7(e)(4)	Yes.	Administrator may require other testing under section 114 of the CAA	
40 CFR 63.7(f)	Yes.	Alternative test method provisions	
40 CFR 63.7(g)	Yes.	Performance test data analysis, recordkeeping, and reporting	
40 CFR 63.7(h)	Yes.	Waiver of tests	
40 CFR 63.8(a)(1)	Yes	Applicability of monitoring requirements	Subpart ZZZZ contains specific requirements for monitoring at 40 CFR 63.6625.
40 CFR 63.8(a)(2)	Yes.	Performance specifications	
40 CFR 63.8(a)(3)		[Reserved]	
40 CFR 63.8(a)(4)	No.	Monitoring for control devices	
40 CFR 63.8(b)(1)	Yes.	Monitoring	
40 CFR 63.8(b)(2)-(3)	Yes.	Multiple effluents and multiple monitoring systems	
40 CFR 63.8(c)(1)	Yes.	Monitoring system operation and maintenance	
40 CFR 63.8(c)(1)(i)	No	Routine and predictable SSM	
40 CFR 63.8(c)(1)(ii)	Yes.	SSM not in Startup Shutdown Malfunction Plan	

General Provision Citation	*General Provision Applicable?*	*Subject of Citation*	*Explanation (if required)*
40 CFR 63.8(c)(1)(iii)	No	Compliance with operation and maintenance requirements	
40 CFR 63.8(c)(2)-(3)	Yes.	Monitoring system installation	
40 CFR 63.8(c)(4)	Yes	Continuous monitoring system (CMS) requirements	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
40 CFR 63.8(c)(5)	No	COMS minimum procedures	Subpart ZZZZ does not require COMS.
40 CFR 63.8(c)(6)-(8)	Yes	CMS requirements	Except that subpart ZZZZ does not require COMS.
40 CFR 63.8(d)	Yes.	CMS quality control	
40 CFR 63.8(e)	Yes	CMS performance evaluation	Except for 40 CFR 63.8(e)(5)(ii), which applies to COMS.
	Except that 40 CFR 63.8(e) only applies as specified in 40 CFR 63.6645.		
40 CFR 63.8(f)(1)-(5)	Yes	Alternative monitoring method	Except that 40 CFR 63.8(f)(4) only applies as specified in 40 CFR 63.6645.
40 CFR 63.8(f)(6)	Yes	Alternative to relative accuracy test	Except that 40 CFR 63.8(f)(6) only applies as specified in 40 CFR 63.6645.
40 CFR 63.8(g)	Yes	Data reduction	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at 40 CFR 40 CFR 63.6635 and 63.6640.
40 CFR 63.9(a)	Yes.	Applicability and State delegation of notification requirements	
40 CFR 63.9(b)(1)-(5)	Yes	Initial notifications	Except that 40 CFR 63.9(b)(3) is reserved.
	Except that 40 CFR 63.9(b) only applies as specified in 40 CFR 63.6645.		
40 CFR 63.9(c)	Yes	Request for compliance extension	Except that 40 CFR 63.9(c) only applies as specified in 40 CFR 63.6645.
40 CFR 63.9(d)	Yes	Notification of special compliance requirements for new sources	Except that 40 CFR 63.9(d) only applies as specified in 40 CFR 63.6645.

General Provision Citation	*General Provision Applicable?*	*Subject of Citation*	*Explanation (if required)*
40 CFR 63.9(e)	Yes	Notification of performance test	Except that 40 CFR 63.9(e) only applies as specified in 40 CFR 63.6645.
40 CFR 63.9(f)	No	Notification of visible emission (VE)/opacity test	Subpart ZZZZ does not contain opacity or VE standards.
40 CFR 63.9(g)(1)	Yes	Notification of performance evaluation	Except that 40 CFR 63.9(g) only applies as specified in 40 CFR 63.6645.
40 CFR 63.9(g)(2)	No	Notification of use of COMS data	Subpart ZZZZ does not contain opacity or VE standards.
40 CFR 63.9(g)(3)	Yes	Notification that criterion for alternative to RATA is exceeded	If alternative is in use.
	Except that 40 CFR 63.9(g) only applies as specified in 40 CFR 63.6645.		
40 CFR 63.9(h)(1)-(6)	Yes	Notification of compliance status	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. 40 CFR 63.9(h)(4) is reserved.
			Except that 40 CFR 63.9(h) only applies as specified in 40 CFR 63.6645.
40 CFR 63.9(i)	Yes.	Adjustment of submittal deadlines	
40 CFR 63.9(j)	Yes.	Change in previous information	
40 CFR 63.10(a)	Yes.	Administrative provisions for recordkeeping/reporting	
40 CFR 63.10(b)(1)	Yes	Record retention	Except that the most recent 2 years of data do not have to be retained on site.
40 CFR 63.10(b)(2)(i)-(v)	No.	Records related to SSM	
40 CFR 63.10(b)(2)(vi)-(xi)	Yes.	Records	
40 CFR 63.10(b)(2)(xii)	Yes.	Record when under waiver	
40 CFR 63.10(b)(2)(xiii)	Yes	Records when using alternative to RATA	For CO standard if using RATA alternative.
40 CFR 63.10(b)(2)(xiv)	Yes.	Records of supporting documentation	

General Provision Citation	*General Provision Applicable?*	*Subject of Citation*	*Explanation (if required)*
40 CFR 63.10(b)(3)	Yes.	Records of applicability determination	
40 CFR 63.10(c)	Yes	Additional records for sources using CEMS	Except that 40 CFR 63.10(c)(2)-(4) and (9) are reserved.
40 CFR 63.10(d)(1)	Yes.	General reporting requirements	
40 CFR 63.10(d)(2)	Yes.	Report of performance test results	
40 CFR 63.10(d)(3)	No	Reporting opacity or VE observations	Subpart ZZZZ does not contain opacity or VE standards.
40 CFR 63.10(d)(4)	Yes.	Progress reports	
40 CFR 63.10(d)(5)	No.	Startup, shutdown, and malfunction reports	
40 CFR 63.10(e)(1) and (2)(i)	Yes.	Additional CMS Reports	
40 CFR 63.10(e)(2)(ii)	No	COMS-related report	Subpart ZZZZ does not require COMS.
40 CFR 63.10(e)(3)	Yes.	Excess emission and parameter exceedances reports.	Except that 40 CFR 63.10(e)(3)(i) (C) is reserved.
40 CFR 63.10(e)(4)	No	Reporting COMS data	Subpart ZZZZ does not require COMS.
40 CFR 63.10(f)	Yes.	Waiver for recordkeeping/reporting	
40 CFR 63.11	No.	Flares	
40 CFR 63.12	Yes.	State authority and delegations	
40 CFR 63.13	Yes.	Addresses	
40 CFR 63.14	Yes.	Incorporation by reference	
40 CFR 63.15	Yes.	Availability of information	

4. Start-Up Requirements

a. **Start-Up Provisions**

Pursuant to 35 IAC 201.149, 201.261, and 201.262, the source is authorized to operate in violation of the applicable requirements (as referenced in Section 4.6 of this CAAPP permit) during start-up. The source has applied for such authorization in its application, generally describing the efforts that will be used "...to minimize start-up emissions, duration of individual starts, and frequency of start-ups." As provided by 35 IAC 201.265, authorization in this CAAPP permit for excess emissions during start-up does not shield the source from enforcement for any violation of applicable emission standard(s) that occurs during start-up and only constitutes a prima facie defense to such an enforcement action provided that the source has fully complied with all terms and conditions connected with such authorization.

i. This authorization does not relieve the source from the continuing obligation to demonstrate that all reasonable efforts are made to minimize start-up emissions, duration of individual starts, and frequency of start-ups.

ii. The source shall conduct start-ups in accordance with written start-up procedures prepared by the source and maintained at the source, that are specifically developed to minimize start-up emissions, duration of individual starts, and frequency of start-ups.

b. **Monitoring - Recordkeeping**

Pursuant to Section 39.5(7)(b) of the Act, the source shall maintain the following recordkeeping requirements for start-up procedures:

i. A copy of the most recent start-up procedures that contains at a minimum:

A. Estimate of excess opacity at start-up.

B. Reasonable steps that will be used to minimize opacity and start-up emissions, duration of individual starts, and frequency of start-ups.

ii. Records for each individual start-up that contains at a minimum:

A. Date, time, duration, and description of the start-up.

B. Whether the most recent start-up procedures were performed. If not performed, an explanation why the procedures were not performed.

C. An explanation of whether opacity during the start-up exceeded the estimates in the start-up procedures and whether opacity exceeded any applicable standard or limit not authorized to be violated during start-up.

c. **Monitoring - Reporting**

Pursuant to Sections 39.5(7)(b) and (f) of the Act, the source shall submit the following reporting requirements:

i. Prompt Reporting

A Deviation Report shall be submitted to the IEPA, Compliance Section (addresses are included Attachment 3) within five (5) days if a start-up exceeded the opacity estimates in the start-up procedures or opacity exceeded any applicable standard or limit not authorized to be violated during start-up.

ii. Semiannual Reporting

As part of the required Semiannual Monitoring Reports, the source shall submit a start-up report including the following at a minimum: a list of the start-ups including the date, duration, and description of each start-up accompanied by any explanations whether the most recent start-up procedures were or were not performed and whether normal operation was or was not achieved in the allowed duration.

5. Shutdown Requirements

a. Shutdown Provisions

Pursuant to Section 39.5(7)(b) of the Act, the source is subject to the following during shutdown:

i. At all times during shutdown, the source shall, to the extent practicable, operate in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether emissions were minimized during a shutdown will be based on information available to the IEPA or the USEPA which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

ii. The source shall operate in accordance with written shutdown procedures that shall include at a minimum:

A. Review of operating parameters during shutdown as necessary for the proper operation with appropriate adjustments to reduce emissions.

B. An estimate of emissions associated with the shutdown.

b. Period Monitoring - Recordkeeping

Pursuant to Section 39.5(7)(b) of the Act, the source shall fulfill the following recordkeeping requirements for shutdown procedures:

i. Date, time, duration and the cause of shutdown.

ii. A description of shutdown, if written operating procedures are not followed during shutdown or significant problems occur during the shutdown, including detailed explanation.

iii. An explanation of whether excess emissions occurred that violated an applicable requirement.

c. Monitoring - Reporting

Pursuant to Sections 39.5(7)(b) and (f) of the Act, the source shall submit the following reporting requirements:

i. Semiannual Reporting

As part of the required Semiannual Monitoring Reports, the source shall submit a shutdown report including the following at a minimum: a list of the shutdowns including the date, duration, and description of each start-up accompanied by any explanations whether the most recent shutdown procedures were or were not performed and whether excess emissions occurred that violated an applicable requirement.

6. Malfunction Breakdown Requirements

a. Malfunction Breakdown Provisions

Pursuant to 35 IAC 201.149, 201.261, and 201.262, the source is authorized to continue operation in violation of the applicable requirements (as referenced in Section 4.6 of the CAAPP permit) during malfunction or breakdown. The source has applied for such authorization in its application, generally describing "such continued operation is necessary to prevent injury to persons or severe damage to equipment; or that such continued operation is required to provide essential services; provided, however, that continued operation solely for the economic benefit of the source shall not be sufficient for granting of permission." As provided by 35 IAC 201.265, authorization in this CAAPP permit for continued operation during malfunction or breakdown does not shield the source from enforcement for any violation of applicable emission standard(s) that occurs during malfunction or breakdown and only constitutes a prima facie defense to such an enforcement action provided that the source has fully complied with all terms and conditions connected with such authorization.

i. Upon continued operation in violation of the applicable requirements during malfunction or breakdown, the source shall as soon as practical, remove from service and repair the emission unit(s) or undertake other measures as described in the application so that any violation of the applicable requirements cease.

ii. For continued operation in violation of the applicable requirements during malfunction or breakdown, the time shall be measured from the start of a particular incident and ends when violation of the applicable requirements ceases. The absence of a violation of the applicable requirements for a short period shall not be considered to end the incident if a violation of the applicable requirements resume. In such circumstances, the incident shall be considered to continue until corrective measures are taken so that a violation of the applicable requirements cease or the source takes the emission unit(s) out of service.

iii. Following notification to the IEPA of continued operation in violation of the applicable requirements during malfunction or breakdown, the source shall comply with all reasonable directives of the IEPA with respect to such incident, pursuant to 35 IAC 201.263.

b. Monitoring - Recordkeeping

Pursuant to Section 39.5(7)(b) of the Act and 35 IAC 201.263, the source shall maintain records of continued operation in violation of the applicable requirements during malfunction or breakdown shall include at a minimum:

i. A malfunction breakdown plan that includes the following at a minimum:

   A. Estimate of typical opacity during malfunction or breakdown.

   B. Reasonable steps that will be taken to minimize opacity, duration, and frequency of malfunction or breakdown.

ii. Date and duration of the malfunction or breakdown.

iii. A detailed explanation of the malfunction or breakdown.

iv. An explanation why the emission unit(s) continued operation.

v. The measures used to reduce the opacity and the duration of the event.

vi. The steps taken to prevent similar malfunctions or breakdowns and reduce their frequency and severity.

vii. An explanation of whether opacity during malfunction or breakdown were above typical emissions in the malfunction or breakdown procedures and whether opacity exceeded any applicable requirements.

c. **Monitoring - Reporting**

Pursuant to Sections 39.5(7)(b) and (f) of the Act and 35 IAC 201.263, the source shall provide the following notification and reports to the IEPA, Compliance Section and Regional Field Office (addresses are included in Attachment 3) concerning continued operation in violation of the applicable requirements during malfunction or breakdown:

i. Prompt Reporting

When continued operation in violation of the applicable requirements during malfunction or breakdown:

A. The source shall notify the IEPA's regional office by telephone as soon as possible during normal working hours, but no later than three (3) days, upon the occurrence of noncompliance due to malfunction or breakdown.

B. Upon achievement of compliance, the source shall give a written follow-up notice within 15 days to the IEPA, Air Compliance Section and Regional Field Office, providing a detailed explanation of the event, an explanation why continued operation was necessary, the length of time during which operation continued under such conditions, the measures taken by the source to minimize and correct deficiencies with chronology, and when the repairs were completed or when the unit(s) was taken out of service.

C. If compliance is not achieved within 5 working days of the occurrence, the source shall submit interim status reports to the IEPA, Air Compliance Section and Regional Field Office, within 5 days of the occurrence and every 14 days thereafter, until compliance is achieved. These interim reports shall provide a brief explanation of the nature of the malfunction or breakdown, corrective actions accomplished to date, actions anticipated to occur with schedule, and the expected date on which repairs will be complete or the emission unit(s) will be taken out of service.

ii. Semiannual Reporting

As part of the required Semiannual Monitoring Reports, the source shall submit a semiannual malfunction breakdown report including the following at a minimum:

A. A listing of all malfunctions and breakdowns, in chronological order, that includes: the date, time, and duration of each incident; and identity of the affected operation(s) involved in the incident.

B. Dates of the notices and reports required by Prompt Reporting requirements of 7.6(c)(i) above.

C. The aggregate duration of all incidents during the reporting period.

D. If there have been no such incidents during the reporting period, this shall be stated in the report.

7. Compliance Assurance Monitoring (CAM) Requirements

a. CAM Provisions

i. Proper Maintenance

At all times, the source shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment, as required by 40 CFR 64.7(b).

ii. Continued Operation

Pursuant to 40 CFR 64.7(c), except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the source shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit (PSEU) is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of 40 CFR Part 64, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The source shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

iii. Response to Excursions or Exceedances

A. Pursuant to 40 CFR 64.7(d)(1), upon detecting an excursion or exceedance, the source shall restore operation of the PSEU (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

B. Pursuant to 40 CFR 64.7(d)(2), determination of whether the source has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

b. Monitoring - Monitoring

Pursuant to 40 CFR 64.7(a), the source shall comply with the monitoring requirements of the CAM Plans as described in 7.7(e) below, pursuant to 40 CFR Part 64 as submitted in the source's CAM plan application.

c. **Monitoring - Recordkeeping**

Pursuant to 40 CFR 64.9(b)(1), the source shall maintain records of the monitoring data, monitor performance data, corrective actions taken, monitoring equipment maintenance, and other supporting information related to the monitoring requirements established for CAM.

d. **Monitoring - Reporting**

Pursuant to Sections 39.5(7)(b) and (f) of the Act, the source shall submit the following reporting requirements:

i. Semiannual Reporting

As part of the required Semiannual Monitoring Reports, the source shall submit a CAM report including the following at a minimum:

A. Summary information on the number, duration, and cause of excursions or exceedances, and the corrective actions taken pursuant to 40 CFR 64.6(c)(3) and 64.9(a)(2)(i).

B. Summary information on the number, duration, and cause for monitoring equipment downtime incidents, other than downtime associated with zero and span or calibration checks pursuant to 40 CFR 64.6(c)(3) and 64.9(a)(2)(ii).

e. **CAM Plans**

The following tables contain the CAM Plans in this CAAPP permit:

Table	Emission Unit Section	PSEU Designation	Pollutant
7.7.1	4.6	Nitric Acid Plant 1 Tower 1	NO_x
7.7.2	4.6	Nitric Acid Plant 2 Tower 2	NO_x
7.7.3	4.7	AN-1: Acid Neutralizer	PM/PM_{10}/$PM_{2.5}$

Table 7.7.1 - CAM Plan

Emission Unit Section:	4.6
PSEU Designation:	Nitric Acid Plant 1 Tower 1
Pollutant:	NO_x

Indicators:	#1) NO_x Emission Rate	
General Criteria		
The Monitoring Approach Used to Measure the Indicators:	CEMS	
The Indicator Range Which Provides a Reasonable Assurance of Compliance:	Less than 1 lb/ton 100% HNO_3 produced (rolling 3 hr average) and 4.55 lb/hr, excluding periods of startup, shutdown and malfunctions'. Less than 0.6 lb/ton 100% HNO_3 produced (rolling 365 day average)	
Quality Improvement Plan (QIP) Threshold Levels:	N/A	
Performance Criteria		
The Specifications for Obtaining Representative Data:	CEMS database as described in the CEMS Plan in Permit Attachment 5	
Verification Procedures to Confirm the Operational Status of the Monitoring:	Use of CEMS in accordance with the manufacturer's procedures	
Quality Assurance and Quality Control (QA/QC) Practices that Ensure the Validity of the Data:	Annual RATA testing, Routine Maintenance	
The Monitoring Frequency:	Continuous	
The Data Collection Procedures That Will Be Used:	CEMS Database as described in the CEMS Plan in Permit Attachment 5.	
The Data Averaging Period for Determining Whether an Excursion or Exceedance Has Occurred:	Rolling 3-hour and rolling 365 day average, rolled daily (calendar day).	

Table 7.7.2 - CAM Plan

Emission Unit Section:	4.6
PSEU Designation:	Nitric Acid Plant 2 Tower 2
Pollutant:	NO_x

Indicators:	#1) NOx Emission Rate	
General Criteria		
The Monitoring Approach Used to Measure the Indicators:	CEMS	
The Indicator Range Which Provides a Reasonable Assurance of Compliance:	Less than 7.65 lb/hr and 36.0 tons/year. Excludes periods of startup, shutdowns, and malfunctions in keeping with the CEMS Plan.	
Quality Improvement Plan (QIP) Threshold Levels:	N/A	
Performance Criteria		
The Specifications for Obtaining Representative Data:	CEMS Database as described in the CEMS Plan in Permit Attachment 5	
Verification Procedures to Confirm the Operational Status of the Monitoring:	Use of CEMS in accordance with manufacturer's procedures	
Quality Assurance and Quality Control (QA/QC) Practices that Ensure the Validity of the Data:	Annual RATA Testing, Routine Maintenance	
The Monitoring Frequency:	Continuous	
The Data Collection Procedures That Will Be Used:	CEMS Database as described in the CEMS Plan in Permit Attachment 5	
The Data Averaging Period for Determining Whether an Excursion or Exceedance Has Occurred:	Rolling 12- Months	

Table 7.7.3 - CAM Plan

Emission Unit Section:	4.8
PSEU Designation:	AN-1: Acid Neutralizer
Pollutant:	PM/PM_{10}/$PM_{2.5}$

Indicators:	#1 Pressure Drop	#2) Presence of Visual Emissions
General Criteria		
The Monitoring Approach Used to Measure the Indicators:	Scrubber Liquid flow rate read via flow meter	Visual Inspections
The Indicator Range Which Provides a Reasonable Assurance of Compliance:	To be determined after performance testing is completed. Performance testing will be completed with 9 months of permit issuance.	Presence of visible emissions
Quality Improvement Plan (QIP) Threshold Levels:	5 of 90 days are outside of indicator range	Presence of visual emissions one week in a calendar quarter
Performance Criteria		
The Specifications for Obtaining Representative Data:		Observer will look for presence of visible emissions
Verification Procedures to Confirm the Operational Status of the Monitoring:	The operational status of the monitoring equipment will be checked on a daily basis.	An observer will conduct the visual inspections on a weekly basis
Quality Assurance and Quality Control (QA/QC) Practices that Ensure the Validity of the Data:	The scrubber liquid flow meter will be calibrated at least once every six months or within 24 hours of an equipment outage.	N/A
The Monitoring Frequency:	The liquid flow rate will be recorded at least once every 2 hours.	Observation of visual emissions will be conducted once weekly
The Data Collection Procedures That Will Be Used:	Liquid flow rate readings will be recorded in a log	Weekly observations for visual emissions and results will be recorded in a log
The Data Averaging Period for Determining Whether an Excursion or Exceedance Has Occurred:	The liquid flow rate will be taken over a length of time consistent with manufacturer's recommendations of the device used for monitoring	N/A

Section 8 - State Only Requirements

1. Permitted Emissions for Fees

The annual emissions from the source for purposes of "Duties to Pay Fees" of Condition 2.3(e), not considering insignificant activities as addressed by Section 6, shall not exceed the following limitations. The overall source emissions shall be determined by adding emissions from all emission units. Compliance with these limits shall be determined on a calendar year basis. The Permittee shall maintain records with supporting calculations of how the annual emissions for fee purposes were calculated. This Condition is set for the purpose of establishing fees and is not federally enforceable. See Section 39.5(18) of the Act.

Pollutant		*Tons/Year*
Volatile Organic Material	(VOM)	52.06
Sulfur Dioxide	(SO_2)	8.63
Particulate Matter	(PM)	130.99
Nitrogen Oxides	(NO_x)	837.82
HAP, not included in VOM or PM	(HAP)	86.89
Total		1116.39

Attachment 1 - List of Emission Units at This Source

Section	*Emission Units*	*Description*
4.1	SG-1	Sulfur Guard
4.1	R-2	Secondary Reformer
4.1	R-3	High Temperature Shift Convertor
4.1	R-4	Low Temperature Shift Convertor
4.1	T-1	Carbon Dioxide Absorber
4.1	R-5	Methanator
4.1	DC-20	Clark Suction Drum
4.1	T-2	Hot Potassium Absorbent Regenerator
4.2	R-1	Primary Reformer (495 mmBtu/hr)
4.2	H-R4	Low Temperature Shift Convertor Startup Heater (3.5 mmBtu/hr)
4.2	H-R6	Ammonia Synthesis Convertor Startup Heater (26 mmBtu/hr)
4.3	W-1A	Cooling Tower
4.3	W-1B	Cooling Tower
4.3	W-1C	Cooling Tower
4.3	W-1D	Cooling Tower
4.3	W-1E	Cooling Tower
4.3	W-1F	Cooling Tower
4.3	W-1G	Cooling Tower
4.4	C-02A	Clark Compressor 5500 HP
4.4	C-02B	Clark Compressor 5500 HP
4.4	C-02C	Clark Compressor 5500 HP
4.5	UR-4A	Falling Film Evaporator
4.5	UR-4B	Falling Film Evaporator
4.5	D24	Curtain Granulator
4.5	C39	Fluidized Bed Cooler
4.5	G54	Dust Separator
4.6	Tower 1	Nitric Acid Plant 1, Tower 1
4.6	Tower 2	Nitric Acid Plant 2, Tower 2
4.7	AN-1	Acid Neutralizer
4.8	ME-01-0109A	Nitric Acid Storage Tank #1
4.8	ME-010109B	Nitric Acid Storage Tank #2
4.8	062-D-1806	Nitric Acid Storage Tank #3
4.8	D-3602	Nitric Acid Storage Tank #4
4.8	D-3604	Nitric Acid Storage Tank #4
4.8	D-3606	Nitric Acid Storage Tank #6
4.9	S-5	Boiler (70.5 mmBtu/hr)
4.9	S-6	Boiler (48 mmBtu/hr)

Attachment 1 - List of Emission Units at This Source

Section	*Emission Units*	*Description*
4.9	S-7	Boiler (170 mmBtu/hr)
4.10	Gasoline Storage Tank	881 Gallons
4.10	Diesel Storage Tank	1000 Gallons

Attachment 2 - Acronyms and Abbreviations

acfm	Actual cubic feet per minute
ACMA	Alternative Compliance Market Account
Act	Illinois Environmental Protection Act [415 ILCS 5/1 et seq.]
AP-42	Compilation of Air Pollutant Emission Factors, Volume 1, Stationary Point and Other Sources (and Supplements A through F), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711
ATU	Allotment trading unit
BACT	Best Available Control Technology
BAT	Best Available Technology
Btu	British Thermal Units
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
CAIR	Clean Air Interstate Rule
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
CISWI	Commercial Industrial Solid Waste Incinerator
CO	Carbon monoxide
CO_2	Carbon dioxide
COMS	Continuous Opacity Monitoring System
CPMS	Continuous Parameter Monitoring System
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
ERMS	Emissions Reduction Market System
°F	Degrees Fahrenheit
GHG	Greenhouse gas
GACT	Generally Acceptable Control Technology
gr	Grains
HAP	Hazardous air pollutant
Hg	Mercury
HMIWI	Hospital medical infectious waste incinerator
hp	Horsepower
hr	Hour
H_2S	Hydrogen sulfide
I.D. No.	Identification number of source, assigned by IEPA
IAC	Illinois Administrative Code
ILCS	Illinois Compiled Statutes
IEPA	Illinois Environmental Protection Agency
kw	Kilowatts
LAER	Lowest Achievable Emission Rate

lbs	Pound
m	Meter
MACT	Maximum Achievable Control Technology
M	Thousand
MM	Million
mos	Month
MSDS	Material Safety Data Sheet
MSSCAM	Major Stationary Sources Construction and Modification (Non-attainment New Source Review)
MW	Megawatts
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen oxides
NSPS	New Source Performance Standards
NSR	New Source Review
PB	Lead
PEMS	Predictive Emissions Monitoring System
PM	Particulate matter
PM_{10}	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods
$PM_{2.5}$	Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 microns as measured by applicable test or monitoring methods
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
PSD	Prevention of Significant Deterioration
PSEU	Pollutant-Specific Emission Unit
psia	Pounds per square inch absolute
PTE	Potential to emit
RACT	Reasonable Available Control Technology
RMP	Risk Management Plan
scf	Standard cubic feet
SCR	Selective catalytic reduction
SIP	State Implementation Plan
SO_2	Sulfur dioxide
T1	Title I - identifies Title I conditions that have been carried over from an existing permit
T1N	Title I New - identifies Title I conditions that are being established in this permit
T1R	Title I Revised - identifies Title I conditions that have been carried over from an existing permit and subsequently revised in this permit
USEPA	United States Environmental Protection Agency
VOM	Volatile organic material

Attachment 3 - Contact and Reporting Addresses

IEPA Compliance Section	Illinois EPA, Bureau of Air Compliance & Enforcement Section (MC 40) 1021 North Grand Avenue East P.O. Box 19276 Springfield, Illinois 62794-9276 Phone No.: 217/782-2113
IEPA Stack Test Specialist	Illinois EPA, Bureau of Air Compliance Section Source Monitoring - Third Floor 9511 Harrison Street Des Plaines, Illinois 60016 Phone No.: 847/294-4000
IEPA Air Quality Planning Section	Illinois EPA, Bureau of Air Air Quality Planning Section (MC 39) 1021 North Grand Avenue East P.O. Box 19276 Springfield, Illinois 62794-9276 Phone No.: 217/782-2113
IEPA Air Regional Field Operations Regional Office #2	Illinois EPA, Bureau of Air Regional Office #2 412 SW Washington Street, Suite D Peoria, Illinois 61602 Phone No.: 309/671-3022
IEPA Permit Section	Illinois EPA, Bureau of Air Permit Section (MC 11) 1021 North Grand Avenue East P.O. Box 19506 Springfield, Illinois 62794-9506 Phone No.: 217/785-1705
USEPA Region 5 - Air Branch	USEPA (AR - 17J) Air and Radiation Division 77 West Jackson Boulevard Chicago, Illinois 60604 Phone No.: 312/353-2000

Attachment 4 - Example Certification by a Responsible Official

SIGNATURE BLOCK	
NOTE: THIS CERTIFICATION MUST BE SIGNED BY A RESPONSIBLE OFFICIAL. APPLICATIONS WITHOUT A SIGNED CERTIFICATION WILL BE DEEMED AS INCOMPLETE.	
I CERTIFY UNDER PENALTY OF LAW THAT, BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION CONTAINED IN THIS APPLICATION ARE TRUE, ACCURATE AND COMPLETE. ANY PERSON WHO KNOWINGLY MAKES A FALSE, FICTITIOUS, OR FRAUDULENT MATERIAL STATEMENT, ORALLY OR IN WRITING, TO THE ILLINOIS EPA COMMITS A CLASS 4 FELONY. A SECOND OR SUBSEQUENT OFFENSE AFTER CONVICTION IS A CLASS 3 FELONY. (415 ILCS 5/44(H))	
AUTHORIZED SIGNATURE:	
BY: _____	_____
AUTHORIZED SIGNATURE	TITLE OF SIGNATORY
_____	____/____/____
TYPED OR PRINTED NAME OF SIGNATORY	DATE

Attachment 5 - Continuous Emissions Monitoring Plan for Nitrogen Oxide Emissions of Nitric Acid Plant 1

Principle

This Continuous Emissions Monitoring System (CEMS) Plan is the mechanism for determining compliance with the Short-Term NOx Limit and Long-Term NOx Limit applicable to Nitric Acid Plant #1, as specified in Section 4.6.2(c)(i), and is used to evaluate the compliance status with the NSPS NOx limit. The methodology described in this CEMS Plan will provide a continuous indication of compliance with the above-referenced NOx emission limits by accurately determining the emission rate in terms of pounds of NOx emitted per ton of 100% Nitric Acid Produced (lb/ton) as a rolling 3-hour average and a rolling 365-day average, as specified in Section 4.6.2(c)(ii). The CEMS will utilize equipment to measure stack NOx concentration, the stack volumetric flow rate, and the 100% nitric acid production rate. From this data, real-time, accurate, and quality controlled measurements of the mass NOx emission rate per unit of production can be obtained.

Definitions

Terms used in this CEMS Plan that are defined in the Clean Air Act ("CAA") or in Federal or state regulations promulgated pursuant to the CAA shall have the meaning assigned to them in the CAA or such regulations, unless otherwise defined below. The terms used in this CEMS Plan that are defined below shall have the meaning assigned to them therein. The following definitions specifically apply for purposes of this CEMS Plan.

- "CEMS" or "Continuous Emission Monitoring System" shall mean the total equipment, required under this CEMS Plan, used to sample and condition (if applicable), to analyze, and to provide a permanent record of emissions or process parameters.
- "Day," "day," or "calendar day" shall mean a calendar day.
- "DSCFH" shall mean dry standard cubic feet per hour.
- "Gauze change" shall mean the periodic replacement of the catalyst gauze, which is normally changed every 110-130 Production days.
- "Long-Term NOx Limit" or "LTL" shall mean a 365-day rolling average NOx emission limit (rolled daily) expressed as pounds of NOx emitted per ton of 100% Nitric Acid Produced ("lb/ton"); compliance with the Long-Term NOx Limit shall be calculated in accordance with this CEMS Plan. The Long-Term NOx Limit applies at all times, including during periods of Startup, Shutdown, or Malfunction.
- "Malfunction" shall mean, consistent with 40 CFR 60.2, any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner, but shall not include failures that are caused in whole or in part by poor maintenance or careless operation.
- "NSPS NOx Limit" shall mean the NOx emission limit expressed as 1.5 kg of NOx per metric ton of 100% Nitric Acid Produced (3 lb per ton) specified at 40 CFR 60.72(a)(1).
- "NOx" shall mean, consistent with 40 CFR 60.2, all oxides of nitrogen except nitrous oxide (N_2O). For the purposes of calculating mass emission rates, NOx has a molecular weight of 46.0055 lbs/lb-mol.
- "NOx stack analyzer" shall mean that portion of the CEMS that senses NOx and generates an output proportional to the NOx concentration.

- "100% Nitric Acid" shall mean nitric acid product manufactured by a Nitric Acid Plant multiplied by the concentration of actual nitric acid in the product. For example, if a Nitric Acid Plant produces 100 tons of a 54% nitric acid product, this equals 54 tons of 100% Nitric Acid.
- "One-hour period" and "1-hour period" shall mean any 60-minute period commencing on the hour.
- "One-minute measurement" shall mean any single measurement or the arithmetic average of multiple measurements of a parameter during a one-minute period on-the-clock.
- "Operating Periods" shall mean periods during which Nitric Acid Plant #1 is producing nitric acid and NOx is emitted. Operating Periods begin at the initiation of Startup, end at the completion of Shutdown, and includes all periods of Malfunction.
- "Production rate analyzer" shall mean that portion of the CEMS that senses the mass of nitric acid produced, the concentration of nitric acid produced, and generates output proportional to the 100% Nitric Acid produced in a given time period.
- "REMC" shall mean Rentech Energy Midwest Corporation, i.e., the Permittee.
- "Short-Term NOx Limit" or "STL" shall mean a 3-hour rolling average NOx emission limit (rolled hourly) expressed in terms of pounds of NOx emitted per ton of 100% Nitric Acid Produced ("lb/ton"); compliance with the Short-Term NOx Limit shall be calculated in accordance with this CEMS Plan. The Short-Term NOx Limit does not apply during periods of Startup, Shutdown, or Malfunction.
- "Shutdown" shall mean the cessation of nitric acid production operations of Nitric Acid Plant #1 for any reason. Shutdown begins at the time the feed of ammonia to Nitric Acid Plant #1 ceases and ends the earlier of 3 hours later or cessation of feed of compressed air to Nitric Acid Plant #1.
- "Stack flowmeter" shall mean that portion of the CEMS that senses the volumetric flow rate and generates an output proportional to that flow rate.
- "Standard Cubic Foot" or "SCF" shall mean a quantity of gas equal to one cubic foot at a temperature of 68° Fahrenheit and a pressure of 14.696 pounds per square inch absolute.
- "Startup" shall mean the process of initiating nitric acid production operations of Nitric Acid Plant #1. Startup begins 1 hour prior to the initiation of the feed of ammonia to Nitric Acid Plant #1 and ends no more than 5 hours after such initiation of the feed of ammonia.
- "Ton" or "tons" shall mean short ton or short tons. One Ton equals 2,000 pounds.

Normal Emissions Monitoring

Emissions monitoring under this CEMS Plan will be done using a NOx stack analyzer and a stack flowmeter on Nitric Acid Plant #1. Except for periods of CEMS breakdowns, analyzer malfunctions, repairs, and required quality assurance or quality control activities (including calibration checks and required zero and span adjustments), REMC will conduct continuous monitoring pursuant to this CEMS Plan at Nitric Acid Plant #1 during all Operating Periods as follows:

- Once every minute, the NOx stack analyzer will measure the stack NOx concentration, in parts per million by volume, dry basis (ppmvd), the stack flowmeter will measure the volumetric flow rate in dry standard cubic feet per

hour (DSCFH),[1] and the production rate analyzer will measure the tons of 100% nitric acid produced.

- For every 1-hour period (60-minute period commencing on the hour), the CEMS will reduce the one-minute measurements generated by the NOx stack analyzer and the stack flowmeter by taking the arithmetic average of all the one-minute measurements during the previous 1-hour period. At least four one-minute measurements must be taken to make this calculation.

- For every 1-hour period, the CEMS will calculate the hourly 100% nitric acid production rate by taking the sum of all one-minute measurements made by the production rate analyzer during the previous 1-hour period. At least four one-minute measurements must be used to make this calculation. If less than sixty one-minute measurements are available in a 1-hour period, the hourly 100% nitric acid production rate will be determined on a *pro rata* basis.

Backup Monitoring Procedure for Long-Term NOx Limit

In the event that the NOx stack analyzer, stack flowmeter, and/or production rate analyzer is/are not available or is/are out-of-control, REMC will implement the backup monitoring procedure specified below. The resulting data will be used to calculate the 365-day average NOx emission rate.

a. REMC will comply with the following requirements to fill in data gaps in the array:

   - Exit stack gas will be sampled and analyzed for NOx at least once every three (3) hours, during all Operating Periods. Sampling will be conducted by making physical measurements of the NOx concentration in the gas stream to the main stack using alternative/non-CEMS methods (*e.g.*, through the use of a portable analyzer/detector or non-certified NOx stack analyzer). The reading obtained will be substituted for the 180 (or less) one-minute measurements that would otherwise be utilized if the CEMS were operating normally. Alternatively, REMC may conduct the required sampling and analysis using a redundant certified NOx analyzer.

   - Stack volumetric flow rate will be estimated using engineering judgment.

   - 100% nitric acid production will be measured in 3-hour blocks based on ammonia feed or tank level changes.

b. During required quality assurance or quality control activities (including calibration checks and required zero and span adjustments) of the CEMS and stack flowmeter, REMC may utilize either (1) the previous calendar day average when the previous day does not include a startup, shutdown, or malfunction, or (2) the average of the block hour average immediately preceding the affected analyzer's(s') stoppage and the initial block hour average of the affected analyzer's(s') upon the resumption of operation following the stoppage, when the

[1] For the purposes of the calculations under this CEMS Plan, as-is volumetric flow rate measurements will be assumed to be dry. However, REMC may adjust for any moisture contained in the stack gas if Nitric Acid Plant #1 is equipped with a continuous moisture analyzer.

previous calendar day includes a startup, shutdown or malfunction, to fill in any data gaps in lieu of the procedures specified in subparagraph a).

c. If any one or more than one of the CEMS or stack flowmeter is/are not operating for a period of less than 24 consecutive hours due to breakdowns, malfunctions, repairs, or out-of-control period of the same, REMC may utilize either (1) the previous calendar day average when the previous day does not include a startup, shutdown, or malfunction, or (2) the average of the block hour average immediately preceding the affected analyzer's (s') stoppage and the initial block hour average of the affected analyzer's(s') upon the resumption of operation following the stoppage, when the previous calendar day includes a startup, shutdown or malfunction, to fill in any data gaps in lieu of the procedures specified in subparagraph a).

Determination of Conversion Factor

During each performance test required for Nitric Acid Plant #1, REMC will develop a conversion factor, in units of lb/ton of 100% Nitric Acid Produced per ppmvd consistent with 40 CFR 60.73(b). Subsequently, REMC will reestablish the conversion factor during each Relative Accuracy Test Audit conducted in accordance with 40 CFR Part 60, Appendix F.

Emissions Calculations for Rolling 3-Hour Average Emissions

Compliance with the Short-Term NOx Limit shall be based on a rolling 3-hour average (rolled hourly). For purposes of calculating a rolling 3-hour average NOx emission rate, the CEMS will maintain an array of the 3 most recent and contiguous 1-hour period average measurements of stack NOx concentration. Every hour, it will add the most recent 1-hour period values to the array and exclude the oldest 1-hour period values. Data generated using the backup monitoring procedure, specified above, need not be included in this calculation. Any data generated during periods that are not Operation Periods will not be included in this calculation.

The rolling 3-hour average lb/ton NOx emission rate (E_{3hravg}) will then be calculated every hour using Equation 1.

Equation 1:

$$E_{3hravg} = \frac{K \cdot \sum_{i=1}^{3} \cdot C_{NOx\,i}}{3}$$

Where:

$C_{NOx\,i}$ = Arithmetic average of all one-minute measurements of stack NOx concentration, parts per million by volume, d basis (ppmvd) during 1-hour period "*i*".

K = Conversion factor determined during the most recent NOx performance or RATA (lb/ton of 100% nitric acid produced per ppmvd).

E_{3hravg} = 3-hour average lb NOx per ton 100% Nitric Acid Produced

Emissions Calculations for Rolling 365-Day Average

Compliance with the Long-Term NOx Limit shall be based on a rolling 365-day average (rolled daily). For the purposes of calculating the 365-day average NOx emission rate each calendar day at Nitric Acid Plant #1, REMC will maintain an array of the mass emissions (lb/day) of NOx (calculated using Equation 2) and the 100% Nitric Acid Produced for that day (tons/day) and the preceding 364 days. Each subsequent day, the data from that day will be added to the array, and the data from the oldest day will be excluded.

For the purposes of calculating daily mass emission rate, the CEMS will maintain an array of each one-hour average NOx concentration (ppmvd) at the exit stack and each one-hour average volumetric flow rate (DSCFH) of the exit stack over each day. Any partial hourly data will be adjusted on a *pro-rata* basis. In the event that one or more of the CEMS and stack flowmeter is/are not available, REMC will use the backup monitoring procedure, specified above, to fill in the data gaps. Any data generated during periods that are not Operating Periods will not be included in this calculation.

Following each calendar day, the daily NOx mass emissions will be calculated using Equation 2.

Equation 2:

$$M_{NO_x Day} = 1.193 \times 10^{-7} \cdot \sum_{i=1}^{n} Q_{Stack\,i} \cdot C_{NOx\,i}$$

Where:

$C_{NOx\,i}$ = Arithmetic average of all one-minute measurements of stack NOx concentration, parts per million by volume, dry basis (ppmvd) during 1-hour period "*i*"

$Q_{Stack\,i}$ = Arithmetic average of all one-minute measurements of stack volumetric flow rate, DSCFH during 1-hour period "*i* "One-minute measurement of stack volumetric flow rate, DSCFM, at interval "*i*"

1.193×10^{-7} = Conversion factor in units of pounds per standard cubic foot (lb/SCF) NOx per ppm

$M_{NO_x Day}$ = Mass emissions of NOx during a calendar day, lb

n = Number of hours of Operating Period in a calendar day

Following each calendar day, the NOx emission rate as lb/ton, averaged over a rolling 365-day period ($E_{365\text{-}Day\,Avg}$) will be calculated using Equation 3.

Equation 3:

$$E_{365\text{-}Day\ Avg} = \frac{\sum_{d=1}^{365} M_{NO_x Day\ d}}{\sum_{d=1}^{365} P_d}$$

Where:

$M_{NO_x Day d}$ = Mass emissions of NOx during a calendar day "d", lb

P_d = 100% Nitric Acid Produced during a calendar day "d", tons

$E_{365\text{-}Day Avg}$ = 365-day rolling average lb NOx per ton of 100% Nitric Acid Produced

Rounding of Numbers resulting from Calculations

Upon completion of the calculations, the final numbers shall be rounded as follows:

E_{3hravg} : Rounded to the nearest tenth.

$E_{365\text{-}Day Avg}$: Rounded to the nearest hundredth.

The numbers "5"-"9" shall be rounded up, and the numbers "1"-"4" shall be rounded down. Thus, "1.05" shall be rounded to "1.1", and "1.04" shall be rounded to "1.0".

Periods of Startup, Shutdown, or Malfunction

Short-Term NOx Limit - The Short-Term NOx Limit (Condition 3(a) of the permit) does not apply during periods of Startup, Shutdown, or Malfunction. If REMC contends that any 3-hour rolling average emission rate is in excess of 1.0 lb/ton due to the inclusion of hours of Startup, Shutdown or Malfunction in the 3-hour period, REMC shall recalculate E_{3hravg} to exclude measurements recorded during the period(s) of the claimed Startup, Shutdown or Malfunction(s). Nothing in this CEMS Plan shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether Nitric Acid Plant #1 would have been in compliance with the Short-Term Limit if the appropriate performance test or compliance procedure had been performed.

NSPS NOx Limit - The NSPS NOx Limit does not apply during periods of Startup, Shutdown, or Malfunction. If REMC contends that any 3-hour rolling average emission rate is in excess of the NSPS limit, i.e., 3.0 lb/ton, due to the inclusion of hours of Startup, Shutdown or Malfunction in the 3-hour period, REMC shall recalculate E_{3hravg} to exclude measurements recorded during the period(s) of the claimed Startup, Shutdown or Malfunction(s). Nothing in this CEMS Plan shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether Nitric Acid Plant #1 would have been in compliance with the NSPS NOx Limit if the appropriate performance test or compliance procedure had been performed.

Analyzer Specifications

The NOx stack analyzers and the stack flowmeter required under this CEMS Plan at Nitric Acid Plant #1 will meet the following specifications:

Table 1

Analyzer	Parameter	Location	Span Value
NOx Stack Analyzers	NOx, ppm by volume, dry basis	Stack	Normal: 0 - 500 ppm NOx SSM: 0 - 5000 ppm NOx
Stack Flowmeter	Volumetric flow rate, SCFH	Stack	0 to 125% of the maximum expected volumetric flow rate

The NOx stack analyzers will meet all applicable requirements of 40 CFR 60.11, 60.13, 40 CFR Part 60, Appendix B, Performance Specification 2, and the Quality Assurance and Quality Control Procedures in 40 CFR Part 60, Appendix F, Procedure 1. It should be noted, however, that the daily drift test requirement at 40 CFR 60.13(d) and the requirements of Appendix F apply only to the normal range of the NOx stack analyzers. The SSM range of the NOx stack analyzers will be evaluated to verify accuracy (a) during each Cylinder Gas Audit and (b) during quarters when a Relative Accuracy Test Audit is conducted.

The stack flowmeters will meet 40 CFR Part 60, Appendix B, Performance Specification 6 and will be evaluated after each normal gauze change and during the RATA of the NOx stack analyzers to verify accuracy.

100% nitric acid production rates measured by the production rate analyzer will be evaluated monthly in comparison to the production rates measured through changes in tank volume and acid concentration and/or ammonia feed rates.

CERTIFICATE OF SERVICE

I, the undersigned, on affirmation, state that I have served the attached **Prefiled Testimony of Philip G. Crnkovich** by email on the following:

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I further state that my email address is as stated in the signature block below, that the number of pages in this email transmission is 209 and that the email transmission took place before 5 p.m. on August 28, 2023.

Dated: August 28, 2023

Respectfully submitted,

/s/ John M. Heyde
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