STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706 • (208) 373-0502

C.L. "Butch" Otter, Governor
Curt Fransen, Director

April 21, 2014

Ric Sorbo
Chairman
Magnolia Nitrogen Idaho LLC
410 Park Avenue, Suite 830
New York, NY 10022

RE: Facility ID No. 077-00035, Magnolia Nitrogen Idaho LLC (Magnida), American Falls
Final Permit Letter

Dear Mr. Sorbo:

The Department of Environmental Quality (DEQ) is issuing Permit to Construct (PTC) No. P-2013.0030 Project 61192 to Magnida for a natural gas based fertilizer production facility to be located near American Falls. This PTC is issued in accordance with IDAPA 58.01.01.200 through 228 (Rules for the Control of Air Pollution in Idaho) and is based on the certified information provided in your PTC application received April 26, 2013 and on all relevant comments received on DEQ's proposed permit during the public comment period.

This permit is effective immediately and does not release Magnida from compliance with all other applicable federal, state, or local laws, regulations, permits, or ordinances.

In accordance with IDAPA 58.01.01.313.01.b, you shall submit a complete application to DEQ for an initial Tier I operating permit within 12 months of becoming a Tier I source or commencing operation.

Pursuant to the Construction and Operation Notification General Provision of your permit, it is required that construction and operation notification be provided. Please provide this information as listed to DEQ's Pocatello Regional Office, 444 Hospital Way, #300, Pocatello, ID 83201, Fax (208) 236-6168.

In order to fully understand the compliance requirements of this permit, DEQ highly recommends that you schedule a meeting with Rick Elkins, Air Quality Analyst, at (208) 236-6160 to review and discuss the terms and conditions of this permit. Should you choose to schedule this meeting, DEQ recommends that the following representatives attend the meeting: your facility's plant manager, responsible official, environmental contact, and any other staff responsible for day-to-day compliance with permit conditions.

Pursuant to IDAPA 58.01.23, you, as well as any other entity, may have the right to appeal this final agency action within 35 days of the date of this decision. However, prior to filing a petition for a contested case, I encourage you to contact Dan Pitman at (208) 373-0502 or daniel.pitman@deq.idaho.gov to address any questions or concerns you may have with the enclosed permit.

Sincerely,

Mike Simon
Stationary Source Program Manager
Air Quality Division

MS\DP

Permit No. P-2013.0030 PROJ 61192

Enclosures

AIR QUALITY

PERMIT TO CONSTRUCT

Permittee	Magnolia Nitrogen Idaho LLC (Magnida)
Permit Number	P-2013.0030
Project ID	61192
Facility ID	077-00035
Facility Location	3051 Lake Channel Road American Falls, Idaho 83211

Permit Authority

This permit (a) is issued according to the "Rules for the Control of Air Pollution in Idaho" (Rules), IDAPA 58.01.01.200–228; (b) pertains only to emissions of air contaminants regulated by the State of Idaho and to the sources specifically allowed to be constructed or modified by this permit; (c) has been granted on the basis of design information presented with the application; (d) does not affect the title of the premises upon which the equipment is to be located; (e) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment; (f) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances; and (g) in no manner implies or suggests that the Idaho Department of Environmental Quality (DEQ) or its officers, agents, or employees assume any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment. Changes in design, equipment, or operations may be considered a modification subject to DEQ review in accordance with IDAPA 58.01.01.200–228.

Date Issued April 21, 2014

Dan Pitman, P.E., Permit Writer

Mike Simon, Stationary Source Manager

Contents

1. Permit Scope

Purpose

1.1 This is the initial permit to construct (PTC) a natural gas-based complex for manufacturing ammonia and nitrogenous fertilizers.

1.2 Those permit conditions that have been modified or revised by this permitting action are identified by the permit issue date citation located directly under the permit condition and on the right-hand margin.

Regulated Sources

Table 1.1 lists all emissions units covered by this permit.

Table 1.1. Regulated Units.

Permit Section	Unit	Control Equipment
2	Ammonia Plant Nominal Capacity: 2,500 tons/day	Ammonia/Urea Process flare & Primary Reformer Heater
3	Ammonia Plant – Primary Reformer Heater Maximum Heat Input Rate: 1,170 MMBtu/hr (HHV)	Selective catalytic reduction
4	Ammonia Plant – Startup Heater Maximum Heat Input Rate: 27 MMBtu/hr (HHV)	n/a
5	Nitric Acid Plant Nominal Capacity: 1,000 tons/day	Selective catalytic reduction
6	Ammonium Nitrate Plant Nominal Capacity: 1,300 tons/day	Wet scrubber
7	Urea Melt Plant Nominal Capacity: 4,100 tons/day	n/a
8	Urea Granulation Process Nominal Capacity: 4,100 tons/day	Wet scrubber
9	Granular Urea Loading Nominal Capacity: 6,150 tons/day	Fabric filter baghouse
10	Cooling Towers – Maximum Cooling Water Flow: Process Cooling Tower: 121,000 gal/min WWTP Cooling Tower: 1,000 gal/min	Drift eliminators
11	Package Boiler Maximum Heat Input Rate: 275 MMBtu/hr (HHV)	n/a
12	Internal Combustion Engines – Output Capacity: Emergency Generator Engine: 2,900 hp Fire Water Pump Engine: 500 hp	n/a
13	Storage Tanks	n/a

2. Ammonia Plant

2.1 Process Description

Ammonia production involves three primary steps: gas preparation, gas purification, and ammonia synthesis.

Gas preparation involves preheating compressed natural gas in the Primary Reformer Heater, removing sulfur using fixed bed catalysts, and reacting the desulfurized gas feed with steam in the primary reformer to produce molecular hydrogen and carbon monoxide. The partially reformed gas from the primary reformer is reacted with air in the secondary reformer. Carbon monoxide in the reformed gas feed is then reacted with steam to produce carbon dioxide and additional hydrogen using a catalyzed shift reaction. The shifted process gas is cooled before the purification step.

Gas purification involves scrubbing of CO_2 from the shifted process gas using an aqueous solution of methyldiethanol amine (MDEA). The CO_2 is absorbed in an absorber tower at process pressure and relatively low temperature. The MDEA is then regenerated in the MDEA Stripper. Following the CO_2 scrubbing process, remaining small amounts of CO_2 and CO in the synthesis gas are converted back to methane. Following the methanation reaction, molecular sieve dryers are used to remove water and trace amounts of CO_2 from the synthesis gas. The final purification step is cryogenic, removing excess nitrogen, methane, argon, and other impurities from the synthesis gas via condensation. The intermediate product is a purified synthesis gas with a hydrogen-to-nitrogen ratio of 3:1.

Ammonia synthesis begins with compression of synthesis gas and heating of this gas stream in a heat exchanger with the hot product stream. The synthesis gas then undergoes the ammonia synthesis reaction in the synthesis converter using an iron catalyst. The reaction is exothermic, so a series of heat exchangers is used to remove heat from the process, producing high-pressure steam as a byproduct. The product ammonia stream is routed to the ammonia refrigeration section and then to the ammonia storage system.

Reforming produces a synthesis gas containing unreacted gases and inerts. To prevent the accumulation of these inerts, the process employs a purge gas stream. This purge gas contains ammonia, nitrogen, hydrogen, inerts and unreacted gases. Energy values in this purge gas are recovered by combustion in the primary reformer heater, thereby contributing to overall energy efficiency of the design.

The provisions of this Condition 2.1 shall not be construed as enforceable requirements.

2.2 Control Device Descriptions

Table 2.1. Ammonia Plant Description.

Emissions Units / Processes	Control Devices	Emission Points
Ammonia Synthesis Capacity: 2,500 tons/day	Process Flare (start-up, shut down, and malfunction events) -Unassisted flare, using natural gas as pilot fuel	Ammonia/Urea Process Flare
	Primary Reformer Heater (purge gases) – Regulated in Section 3 of the permit	Primary Reformer Heater
MDEA Stripper	n/a	MDEA Stripper Vent

Emission Limits

2.3 Emission Limits

The emissions from the MDEA Stripper Vent shall not exceed any corresponding emissions rate limits listed in Table 2.2.

Table 2.2. Ammonia Plant Emission Limits[a].

Source Description	CO		VOC		GHG[e]	Ammonia (NH_3)
	lb/hr [b]	T/yr [c]	lb/hr [b]	T/yr [c]	T/yr [d]	lb/hr[b]
MDEA Stripper	2.1	9.1	2.3	10.0	1,163,438	0.92

a In absence of any other credible evidence, compliance is ensured by complying with permit operating, monitoring, record keeping, and testing requirements.
b Pounds per hour, as determined by a test method prescribed by IDAPA 58.01.01.157, EPA reference test method, continuous emission monitoring system (CEMS) data, or DEQ-approved alternative.
c Tons per any consecutive 12-calendar month period.
d Tons per any consecutive 12-calendar month period, CO_2e basis.
e Greenhouse Gas (GHG)

2.4 BACT

The permittee shall not allow emissions from the MDEA Stripper in excess of the following limits:

- 0.020 lb CO per ton of ammonia produced, based on a three test run average.
- 0.022 lb VOC per ton of ammonia produced, based on a three test run average.
- 2,550 lb GHG (CO_2e basis) per ton of ammonia produced, based on a 12-month rolling average.

Operating Requirements

2.5 Ammonia production shall not exceed 2,500 tons per calendar day.

2.6 The MDEA scrubber shall not be used to scrub carbon dioxide from process gases downstream of ammonia synthesis in the catalytic reactor.

2.7 The permittee shall install, maintain, and operate a flare to control emissions of ammonia and other gases purged from the ammonia and urea processes during startup/shut down events, and during periods of malfunction. The process flare shall be an elevated flare that:

- Meets all requirements of 40 CFR §60.18 applicable to non-assisted flares. Including no visible emissions, operating with a flame present at all times as determined by a flame detector, and exit velocity requirements;
- Is served by a pilot that burns natural gas exclusively;
- Is operated at all times in accordance with good combustion practices by complying with all requirements of 40 CFR §60.18 applicable to non-assisted flares; and
- Includes a system for recording the date, time, duration of each occurrence of venting of gases to the flare, and total flow of vented gases and pilot gas in standard cubic feet per minute to the flare, whenever process gas is vented to the process flare.

Venting to the flare shall be limited to start-up, shut down, and malfunction events. Excluding periods of malfunctions, venting to the flare shall be limited to:

- 7 calendar days per any consecutive 12 calendar months; and
- 12 hours per calendar day.

The facility shall conduct a root cause analysis and implement corrective actions following any flaring event attributable to malfunction. The permittee shall prepare a report on the results of the root cause analysis. The report shall include a description of what caused the malfunction, the duration of the malfunction, corrective actions taken, and steps to be taken to prevent the malfunction in the future. Each report shall be maintained on-site and made available to DEQ representatives upon request. The permittee shall also comply with all applicable excess emissions reporting requirements.

Monitoring and Recordkeeping Requirements

2.8 The permittee shall monitor and record the production of ammonia in tons per calendar day, in tons per calendar month, and in tons per consecutive 12-calendar-month period.

2.9 The permittee shall install, maintain, and operate a continuous emission rate monitor system (CERMS) on the MDEA Stripper Vent to measure the CO_2 concentration and emission rate in vent gases. The CERMS shall be designed to meet Performance Specifications in 40 CFR 60 or DEQ approved alternative. GHG emissions shall be based on the measured CO_2 emission rate.

Performance Testing Requirements

2.10 Within 180 days after initial startup of the Ammonia Plant, the permittee shall conduct performance tests to determine CO, VOC and ammonia emission rates from the MDEA Stripper Vent. CO and VOC emissions shall be determined in units of pounds per hour and pounds per ton of ammonia produced. Ammonia emissions shall be determined in pounds per hour. CO and VOC tests shall be performed using EPA Reference Methods in 40 CFR part 60, or DEQ approved alternatives. Ammonia tests shall be conducted in accordance with a DEQ approved testing protocol.

After the initial performance tests, future testing shall be performed according to the following schedule. If the emission rate measured in the most recent test is less than or equal to 75% of the emission limits the next test for that pollutant shall be conducted within five years of the test date. If the emission rate measured during the most recent performance test is greater than 75%, but less than or equal to 90%, of the emission limits the next test for that pollutant shall be conducted within two years of the test date. If the emission rate measured during the most recent performance test is greater than 90% of the emission limits the next test for that pollutant shall be conducted within one year of the test date.

During the performance tests the permittee shall record ammonia production rate in tons during each test run.

MACT Requirements

2.11 40 CFR Part 63, Subpart FFFF - Miscellaneous Organic Chemical Manufacturing

The permittee shall comply with all applicable provisions of 40 CFR 63, subpart FFFF.

3. Ammonia Plant – Primary Reformer Heater

3.1 Process Description

The Primary Reformer Heater is a gaseous fuel-fired heater used to provide process heat to the Ammonia Plant. It burns only natural gas and recycled process gases from the Ammonia Plant and has a maximum heat input capacity of 1,170 MMBtu/hr (HHV).

The provisions of this Condition 3.1 shall not be construed as enforceable requirements.

3.2 Control Device Descriptions

Table 3.1. Primary Reformer Heater Description.

Emissions Units / Processes	Control Devices	Emission Points
Primary Reformer Heater	Selective Catalytic Reduction (SCR)	Primary Reformer Heater Stack

Emission Limits

3.3 The emissions from the Primary Reformer Heater shall not exceed any corresponding emissions rate limits listed in Table 3.2.

Table 3.2. Primary Reformer Heater Emission Rate Limits[a].

Source Description	$PM_{10}/PM_{2.5}$ [b]		NO_x		CO		VOC		GHG[f]
	lb/hr [c]	T/yr [d]	lb/hr [c]	T/yr [d]	lb/hr [c]	T/yr [d]	lb/hr [c]	T/yr [d]	T/yr [e]
Primary Reformer Heater	8.7	38.2	13.5	59.3	23.4	102.5	1.8	7.7	599,597

a In absence of any other credible evidence, compliance is ensured by complying with permit operating, monitoring, record keeping, and testing requirements.
b PM_{10} - Particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers, including condensable particulate as defined in IDAPA 58.01.01.006; $PM_{2.5}$ means particulate matter measured by an applicable reference method, including condensable particulate.
c Pounds per hour, as determined by a test method prescribed by IDAPA 58.01.01.157, EPA reference test method, continuous emission monitoring system (CEMS) data, or DEQ-approved alternative.
d Tons per any consecutive 12-calendar month period.
e Tons per any consecutive 12-calendar month period, CO_2e basis.
f Greenhouse gas (GHG) BACT limit

3.4 BACT

The permittee shall not allow emissions from the Primary Reformer Heater in excess of the following limits:

- 0.0075 lb $PM_{10}/PM_{2.5}$ per MMBtu heat input (HHV), based on a three test run average.
- 0.013 lb NO_X per MMBtu heat input (HHV), based on a rolling 30 calendar day average, excluding periods of startup, shutdown, and malfunction.
- 0.013 lb NO_X per MMBtu heat input (HHV), based on a rolling 365 calendar day average, including periods of startup, shutdown, and malfunction.
- 0.0194 lb CO per MMBtu heat input (HHV), based on a three test run average.
- 0.0015 lb VOC per MMBtu heat input (HHV), based on a three test run average.

3.5 Ammonia emissions from the Primary Reformer Heater shall not exceed 10 parts per million dry volume (ppmdv) 3-hour average at 2.5% oxygen.

Operating Requirements

3.6 The permittee shall not cause to be combusted in the Primary Reformer Heater any fuels other than natural gas or recycled process gases from the Ammonia Plant.

3.7 The permittee shall install, maintain and operate a SCR to control emissions from the Primary Reformer Heater.

3.8 The permittee shall not cause the heat input rate to the Primary Reformer Heater to exceed 1,170 MMBtu/hr (HHV) on a daily average basis.

Monitoring and Recordkeeping Requirements

3.9 The permittee shall monitor and record the heat input to the Primary Reformer Heater on a daily basis. The permittee shall monitor heat input in accordance with a DEQ approved monitoring protocol. The protocol shall address monitoring natural gas and recycled process gas flow rate and heat input rate determinations.

3.10 The permittee shall install, maintain, and operate continuous emission rate monitor system (CERMS) on the Primary Reformer Heater Stack to measure the NO_X and CO_2 concentrations and emission rates in stack gases. The CERMS shall be designed to meet Performance Specifications in 40 CFR part 60 or DEQ approved alternative.

3.11 The permittee shall determine:

- each hour, the NO_x pound per hour emission rate;
- each day, the NO_x emission rate in pounds per MMBtu heat input (HHV), based on a rolling 30 calendar day average, excluding periods of startup, shutdown, and malfunction; and
- each day, the NOx emission rate in pounds NO_X per MMBtu heat input (HHV), based on a rolling 365 calendar day average, including periods of startup, shutdown, and malfunction.

3.12 On a monthly basis the permittee shall calculate and record GHG emissions over the previous consecutive 12-calendar month period (CO_2e basis) as the sum of the CO_2 emission rate measured in accordance with the CERMS and CH_4 and N_2O emission rates calculated using the default emission factors and global warming potentials in 40 CFR 98, subpart C or DEQ approved alternative.

Performance Testing Requirements

3.13 Within 180 days after initial startup of the Ammonia Plant, the permittee shall conduct performance tests to determine $PM_{10}/PM_{2.5}$, CO, ammonia and VOC emission rates from the Primary Reformer Heater. Tests shall be performed using EPA Reference Methods or DEQ approved alternatives. $PM_{10}/PM_{2.5}$, CO, and VOC emission rates shall be determined in pounds per hour and pounds per MMBtu heat input (HHV). Ammonia emissions shall be determined in parts per million dry volume (ppmdv) 3-hour average at 2.5% oxygen. The permittee may presume all measured PM_{10} is also $PM_{2.5}$.

After the initial performance tests, future testing shall be performed according to the following schedule. If the emission rate measured in the most recent test is less than or equal to 75% of the emission limits the next test for that pollutant shall be conducted within five years of the test date. If the emission rate measured during the most recent performance test is greater than 75%, but less than or equal to 90%, of the emission limits the next test for that pollutant shall be conducted within two years of the test date. If the emission rate measured during the most recent performance test is greater than 90% of the emission limits the next test for that pollutant shall be conducted within one year of the test date.

During the performance tests the permittee shall record heat input rate to the Primary Reformer Heater in MMBtu/hr (HHV).

MACT Requirements

3.14 40 CFR 63, Subpart DDDDD - Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

The permittee shall comply with all applicable provisions of 40 CFR 63, subpart DDDDD.

4. Ammonia Plant – Startup Heater

4.1 Process Description

The Startup Heater is a natural gas-fired heater used to preheat the catalyst and reactor in the Ammonia Plant following periods of plant shutdown. It has a maximum heat input capacity of 27 MMBtu/hr (HHV). No air pollution control devices are used. The Startup Heater is a limited use heater, at maximum capacity the heater is limited to approximately 100 hours per year.

The provisions of this Condition 4.1 shall not be construed as enforceable requirements.

Operating Requirements

4.2 BACT

The permittee shall not cause to be combusted in the Startup Heater any fuels other than natural gas.

4.3 Operating Limit

The permittee shall not cause the natural gas usage in the Startup Heater to exceed 2.7 million standard cubic feet (MMscf) per rolling 12-month period.

Monitoring and Recordkeeping Requirements

4.4 Monitoring of Operations

The permittee shall monitor and record the natural gas usage in the Startup Heater each month and each rolling 12-month period in MMscf.

MACT Requirements

4.5 40 CFR 63, Subpart DDDDD - Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

The permittee shall comply with all applicable provisions of 40 CFR 63, subpart DDDDD.

5. Nitric Acid Plant

5.1 Process Description

Nitric acid is produced by reacting ammonia with oxygen over a platinum/rhodium catalyst. Ammonia is fed to the reactor from the Ammonia Plant; compressed air is used as the source of oxygen.

The provisions of this Condition 5.1 shall not be construed as enforceable requirements.

5.2 Control Device Descriptions

Table 5.1. Nitric Acid Plant Description.

Emissions Units / Processes	Control Devices	Emission Points
Nitric Acid Plant Capacity: 1,000 tons/day	Selective Catalytic Reduction (SCR)	Nitric Acid Plant Stack

Emission Limits

5.3 Emission Limits

The emissions from the Nitric Acid Plant Stack shall not exceed any corresponding emissions rate limits listed in Table 5.2.

Table 5.2. Nitric Acid Plant Emission Limits[a].

Source Description	NO_X		GHG	Ammonia (NH_3)
	lb/hr [b]	T/yr [c]	T/yr [d]	lb/hr[b]
Nitric Acid Plant	20.8	91.3	22,813	1.9

a In absence of any other credible evidence, compliance is ensured by complying with permit operating, monitoring, record keeping, and testing requirements.
b Pounds per hour, as determined by a test method prescribed by IDAPA 58.01.01.157, EPA reference test method, continuous emission monitoring system (CEMS) data, or DEQ-approved alternative.
c Tons per any consecutive 12-calendar month period.
d Tons per any consecutive 12-calendar month period, CO_2e basis.

5.4 BACT

The permittee shall not allow emissions from the Nitric Acid Plant in excess of the following limits:

- 0.5 lb NO_X per ton of nitric acid produced in units of 100 percent acid produced, based on a 30-day rolling average.
- 125 lb GHG (CO_2e basis) per ton of nitric acid produced in units of 100 percent acid produced, based on a three test run average.

Operating Requirements

5.5 Nitric acid production production shall not exceed 1,000 tons per calendar day measured as 100% nitric acid.

5.6 The permittee shall install, maintain and operate a SCR to control emissions from the Nitric Acid Plant.

Monitoring and Recordkeeping Requirements

5.7 The permittee shall monitor and record the production of nitric acid measured as 100% nitric acid in tons per calendar day and tons per each consecutive 30 calendar days.

5.8 The permittee shall install, maintain, and operate a CERMS on the Nitric Acid Plant Stack to measure the NO_X concentration and emission rate in vent gases. The CERMS shall be designed and operated in accordance with the applicable requirements specified in 40 CFR 60 Subpart Ga. The CERMS shall monitor and record hourly emission rates in pounds each hour to determine compliance with the pound per hour NO_x emission limit and shall, with measured data of the hourly nitric acid production (tons), be used calculate emissions in units of pounds per ton of 100 percent acid produced based on a 30-day rolling average.

Performance Testing Requirements

5.9 Within 180 days after initial startup of the Nitric Acid Plant, the permittee shall conduct performance tests to determine the nitrous oxide (N_2O) and ammonia emissions rates from the Nitric Acid Plant Stack. N_2O tests shall be performed using EPA Reference Methods in 40 CFR 60 or approved alternative and the GHG emissions rate shall be calculated in pounds (CO_2e basis) per ton of nitric acid produced (i.e. units of 100 percent acid produced) using the default global warming potential of N_2O (no other GHG are known to be emitted). The ammonia emission tests shall be conducted in accordance with a written and DEQ approved testing protocol and shall determine ammonia emissions rates in pounds per hour.

After the initial performance tests, future ammonia and N_2O testing shall be performed according to the following schedule. If the emission rate measured in the most recent test is less than or equal to 75% of the emission limits the next test for that pollutant shall be conducted within five years of the test date. If the emission rate measured during the most recent performance test is greater than 75%, but less than or equal to 90%, of the emission limits the next test for that pollutant shall be conducted within two years of the test date. If the emission rate measured during the most recent performance test is greater than 90% of the emission limits the next test for that pollutant shall be conducted within one year of the test date.

During the performance tests the permittee shall record nitric acid production rate in tons per hour.

NSPS Requirements

5.10 40 CFR 60, Subpart Ga - Standards of Performance for Nitric Acid Plants

The permittee shall comply with all applicable provisions of 40 CFR 60, subpart Ga.

6. Ammonium Nitrate Plant and UAN Plant

6.1 Process Description

Ammonium Nitrate is produced by reacting ammonia, received from the Ammonia Plant, with an aqueous solution of nitric acid from the Nitric Acid Plant. Ammonia in the gaseous effluent stream from this neutralization reactor is absorbed in a process scrubber using an aqueous solution containing free nitric acid.

Production of UAN solution involves blending aqueous solutions of ammonium nitrate and urea in a mix tank. Varying grades of UAN solution are produced, ranging from approximately 36 to 48 percent ammonium nitrate and 29 to 38 percent urea by weight, with the balance water.

The provisions of this Condition 6.1 shall not be construed as enforceable requirements.

Emission Limits

6.2 Emission Limits

The emissions from the Ammonium Nitrate Neutralizer Vent shall not exceed any corresponding emissions rate limits listed in Table 6.1.

Table 6.1. Ammonium Nitrate Neutralizer Emission Limits[a].

Source Description	$PM_{10}/PM_{2.5}$ [b]		Ammonia (NH_3)	Nitric Acid (HNO_3)
	lb/hr [c]	T/yr [d]	lb/hr[c]	lb/hr[c]
Ammonium Nitrate Neutralizer	0.70	3.1	0.12	0.33

a In absence of any other credible evidence, compliance is ensured by complying with permit operating, monitoring, record keeping, and testing requirements.
b PM_{10} - Particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers, including condensable particulate as defined in IDAPA 58.01.01.006; $PM_{2.5}$ means particulate matter measured by an applicable reference method, including condensable particulate.
c Pounds per hour, as determined by a test method prescribed by IDAPA 58.01.01.157, EPA reference test method, continuous emission monitoring system (CEMS) data, or DEQ-approved alternative.
d Tons per any consecutive 12-calendar month period.

6.3 BACT

The permittee shall not allow $PM_{10}/PM_{2.5}$ emissions from the Ammonium Nitrate Neutralizer Vent in excess of 0.013 lb per ton of ammonium nitrate produced, based on a three test run average.

Operating Requirements

6.4 Ammonium nitrate production shall not exceed 1,300 tons per day.

6.5 The permittee shall install a wet scrubber using an aqueous solution containing nitric acid to control ammonia emissions from the ammonium nitrate neutralizer vent.

6.6 Within 60 days after conducting the source test required by this section of the permit the permittee shall submit proposed pressure drop, scrubbing media flow rate, and pH operating parameters for DEQ approval.

Pressure drop, scrubbing media flow rate, and pH shall be maintained in accordance with DEQ approved parameters.

Monitoring and Recordkeeping Requirements

6.7 The permittee shall monitor and record the production of ammonium nitrate in tons per day.

6.8 The permittee shall monitor the pressure drop across the scrubber, scrubber scrubbing media flow rate, and inlet scrubbing media pH at least once each hour.

Performance Testing Requirements

6.9 Within 180 days after initial startup of the Ammonium Nitrate Plant, the permittee shall conduct performance tests to determine the $PM_{10}/PM_{2.5}$ emissions in pounds per hour and pounds per ton of ton of ammonium nitrate produced, ammonia and nitric acid emission rates in pounds per hour. Tests shall be performed in accordance with a written and DEQ approved testing protocol. The permittee may presume all measured PM_{10} is also $PM_{2.5}$.

After the initial performance tests, future testing shall be performed according to the following schedule. If the emission rate measured in the most recent test is less than or equal to 75% of the emission limits the next test for that pollutant shall be conducted within five years of the test date. If the emission rate measured during the most recent performance test is greater than 75%, but less than or equal to 90%, of the emission limits the next test for that pollutant shall be conducted within two years of the test date. If the emission rate measured during the most recent performance test is greater than 90% of the emission limits the next test for that pollutant shall be conducted within one year of the test date.

During performance tests the permittee shall record ammonium nitrate production rate in tons per hour. Each 15 minutes during the test the permittee shall monitor and record the scrubbing media flow rate, pressure drop across the scrubber and the pH of the scrubbing media to the scrubber.

The permittee may conduct performance tests at varying ammonium nitrate production rates in order to establish scrubber operating parameters that will apply at various production rates (e.g. 0-50% of permitted production rate, 51-100% of permitted production rate).

7. Urea Melt Plant

7.1 Process Description

Urea is produced by reacting ammonia and CO_2, both received from the Ammonia Plant, in a high-pressure urea reactor. The stream leaving the reactor contains urea and water as well as unreacted ammonia, CO_2, and carbamates (e.g. $H_2N\text{-}COONH_4$). The reactor effluent is sent to a steam stripper, which separates the ammonia and most of the CO_2 from the urea solution and the unreacted carbamates. Most of the unreacted carbamate is decomposed back to ammonia and CO_2 by the stripping action. The bottoms of the ammonia stripper are sent to a series of decomposers, in which residual carbamate and CO_2 are recovered. Urea leaving the decomposers is concentrated in the evaporation section into a melt. The ammonia and CO_2 from the stripper are combined with the recovered carbamate solution from the decomposers. This stream is condensed in a carbamate condenser and recycled to the reactor.

The product urea from the Urea Plant is an aqueous solution and is used in the urea granulation process, the DEF production process, and the UAN Plant. A scrubber is used to control ammonia emissions.

The provisions of this Condition 7.1 shall not be construed as enforceable requirements.

Emission Limits

7.2 Emission Limits

The emissions from the Urea Melt Plant Vent shall not exceed any corresponding emissions rate limits listed in Table 7.1.

Table 7.1. Urea Melt Plant Emission Limits[a].

Source Description	GHG[f] T/yr [b]	Ammonia (NH_3) lb/day[c]	$PM_{10}/PM_{2.5}$ [g] lb/hr[d]
Urea Melt Plant	1,366	52.8	Below Detection Limits[e]

a In absence of any other credible evidence, compliance is ensured by complying with permit operating, monitoring, record keeping, and testing requirements.
b Tons per any consecutive 12-calendar month period, CO_2e basis.
c Pounds per calendar day.
d As determined by a test method prescribed by IDAPA 58.01.01.157, EPA reference test method or DEQ-approved alternative.
e For purpose of this permit the detection limit is a total front half (filterable) and back half (condensable) catch of 3 mg.
f Greenhouse Gas (GHG)
g Particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers, including condensable particulate as defined in IDAPA 58.01.01.006; $PM_{2.5}$ means particulate matter measured by an applicable reference method, including condensable particulate.

Operating Requirements

7.3 All processes associated with urea synthesis and urea solution concentration processes that are designed to vent to the atmosphere shall be vented to the Urea Melt Plant Vent except during periods of startup, shutdown or malfunction.

7.4 The permittee shall install, maintain, and operate a flare to control emissions of ammonia and other gases purged from the ammonia and urea processes during startup/shut down events, and during periods of malfunction. The Ammonia/Urea Process Flare shall comply with the provisions specified in Section 2 of this permit.

Monitoring and Recordkeeping Requirements

7.5 Production Rate Monitoring

The permittee shall monitor and record the production of urea melt in tons per day and tons per month.

7.6 The permittee shall install, maintain, and operate a continuous emission rate monitor system (CERMS) on the Urea Melt Plant Vent to measure the ammonia concentration and emission rate in pounds per calendar day. The device(s) shall be installed, calibrated and maintained in accordance with a written and DEQ approved monitoring protocol. The ammonia CEM shall meet the EPA Preliminary Performance Specifications for Ammonia Continuous Emission Monitors or DEQ approved alternative.

Performance Testing Requirements

7.7 Within 180 days after initial startup of the Urea Melt Plant, the permittee shall conduct a performance test to determine $PM_{10}/PM_{2.5}$ emission rates from the Urea Melt Plant Vent. The $PM_{10}/PM_{2.5}$ emissions shall be conducted in accordance using EPA Reference Methods or DEQ approved alternatives and shall consist of 3 one hour test runs unless a different duration is approved by DEQ in writing. The permittee may presume all measured PM_{10} is also $PM_{2.5}$.

NSPS, MACT and BACT Requirements

7.8 40 CFR 60, Subpart VVa - Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry

The permittee shall comply with all applicable provisions of 40 CFR 60, subpart VVa.

7.9 40 CFR 63, Subpart FFFF - Miscellaneous Organic Chemical Manufacturing

The permittee shall comply with all applicable provisions of 40 CFR 63, subpart FFFF.

7.10 BACT

Notwithstanding the leak definition at § 60.482-8a(b), attempt and complete repair as required by §60.482-8a(c) and (d) if an instrument reading of 2,000 ppmv or greater for a pump seal or 500 ppmv or greater for valves, connectors, instrumentation systems, and pressure relief devices is measured.

8. Urea Granulation Process

8.1 Process Description

The granulation process begins with the blending of liquid urea solution from the Urea Melt Plant with a small quantity of urea-formaldehyde concentrate, the purpose of which is to enhance the stability of the granular urea product. The resulting mixture is sprayed onto fluidized seed particles so that the sprayed material will solidify, growing a granule, with the end result being a low-moisture, very hard granule.

The granules that are formed flow out of the granulator to a fluid bed cooler that uses air as the cooling medium. The granules are then lifted by a bucket elevator to the screening section. Here, screening takes place to separate the granules that are the correct size from smaller particles. These on-size granules are sent to a second air-cooler for further cooling prior to being sent to humidity-controlled storage. The smaller particles are recycled to the granulator as seed particles.

A wet scrubber is used for emissions control at the granulator exhaust.

The provisions of this Condition 8.1 shall not be construed as enforceable requirements.

8.2 Control Device Descriptions

Table 8.1. Urea Granulation Process Description.

Emissions Units / Processes	Control Devices	Emission Points
Urea Granulation Process Capacity: 4,100 tons/day	Wet scrubber	Urea Granulation Vent

Emission Limits

8.3 Emission Limits

The emissions from the Urea Granulation Vent shall not exceed any corresponding emissions rate limits listed in Table 8.2.

Table 8.2. Urea Granulation Vent Emission Limits[a].

Source Description	$PM_{2.5}$[g]		PM_{10}[b]		PM		VOC		NH_3[e]	CH_2O[f]
	lb/hr[c]	T/yr[d]	lb/hr[c]	T/yr[d]	lb/hr[c]	T/yr[d]	lb/hr[c]	T/yr[d]	lb/hr[c]	lb/hr[c]
Urea Granulation Process	16.4	71.8	20.5	89.8	20.5	89.8	3.0	13.0	60.1	4.2E-2

a In absence of any other credible evidence, compliance is ensured by complying with permit operating, monitoring, record keeping, and testing requirements.
b Particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers, including condensable particulate as defined in IDAPA 58.01.01.006.
c Pounds per hour, as determined by a test method prescribed by IDAPA 58.01.01.157, EPA reference test method, continuous emission monitoring system (CEMS) data, or DEQ-approved alternative.
d Tons per any consecutive 12-calendar month period.
e Ammonia
f Formaldehyde
g $PM_{2.5}$ means particulate matter measured by an applicable reference method, including condensable particulate.

8.4 BACT

The permittee shall not allow emissions from the Urea Granulation Vent in excess of the following limits:

- 0.11 lb filterable PM per ton of granular urea produced, based on a three test run average.
- 0.11 lb PM_{10} per ton of granular urea produced, based on a three test run average.
- 0.096 lb $PM_{2.5}$ per ton of granular urea produced, based on a three test run average.
- 0.017 lb VOC per ton of granular urea produced, based on a three test run average.

Operating Requirements

8.5 Granular urea production shall not exceed 4,100 tons per calendar day.

8.6 The permittee shall install, operate, and maintain a wet scrubber to control emissions from the urea granulation process.

8.7 Within 60 days after conducting the source test required by this section of the permit the permittee shall submit proposed pressure drop and scrubbing media flow rate operating parameters for DEQ approval to assure compliance with all pound per hour emission limits. The permittee may elect to propose establishing Compliance Assurance Monitoring (CAM) in the this Permit to Construct or to establish parameters that will be applicable until CAM requirements are established in a Tier I Operating Permit.

Pressure drop and scrubbing media flow rate shall be maintained in accordance with DEQ approved parameters.

Monitoring and Recordkeeping Requirements

8.8 The permittee shall monitor and record the production of granular urea in tons per day and tons per month.

Performance Testing Requirements

8.9 Performance Tests

Within 180 days after initial startup of the Urea Granulation Process, the permittee shall conduct performance tests to determine PM, PM_{10}, $PM_{2.5}$, VOC, ammonia and formaldehyde emission rates from the Urea Granulation Vent in pounds per hour, and pounds per ton of granular urea when a corresponding pound per ton emission rate limit applies. PM, PM_{10}, $PM_{2.5}$, and VOC Tests shall be performed using EPA Reference Methods or DEQ approved alternatives. Ammonia and formaldehyde tests shall be conducted in accordance with a written and DEQ approved testing protocol.

After the initial performance tests, future testing shall be performed according to the following schedule. If the emission rate measured in the most recent test is less than or equal to 75% of the emission limits the next test for that pollutant shall be conducted within five years of the test date. If the rate measured during the most recent performance test is greater than 75%, but less than or equal to 90%, of the emission limits the next test for that pollutant shall be conducted within two years of the test date. If emission rate measured during the most recent performance test is greater than 90% of the emission limits the next test for that pollutant shall be conducted within one year of the test date.

During performance tests the permittee shall record granular urea production rate in tons per hour. Each 15 minutes during the test, the permittee shall monitor and record the scrubbing media flow rate and pressure drop across the scrubber.

9. Granular Urea Loading

9.1 Process Description

Urea will be loaded into railcars and trucks from the warehouse via solid product loading equipment. A reclaimer inside the warehouse will move the product to a conveyor system. The conveyor system, once it leaves the warehouse, will be covered and will move the product to the top of a loading structure where it will deposit the granular urea into a large hopper. The hopper will feed a set of chutes used to fill railcars on one side and trucks on the other. All loading of both railcars and trucks will be contained inside a humidity controlled structure.

A fabric filter is used for emissions control.

The provisions of this Condition 9.1 shall not be construed as enforceable requirements.

9.2 Control Device Descriptions

Table 9.1. Granular Urea Loading Description.

Emissions Units / Processes	Control Devices	Emission Points
Granular Urea Loading Nominal Capacity: 6,150 tons/day	Filter System(s)	Urea Load-out Vent

Emission Limits

9.3 Emission Limits

The emissions from the Urea Loadout Vent shall not exceed any corresponding emissions rate limits listed in Table 9.2.

Table 9.2. Urea Loadout Vent Emission Limits[a].

Source Description	$PM/PM_{10}/PM_{2.5}$[d]		NH_3[e]
	lb/hr[b]	T/yr[c]	lb/hr[b]
Urea Lead-out	0.4	1.9	0.12

a In absence of any other credible evidence, compliance is ensured by complying with permit operating, monitoring, record keeping, and testing requirements.

b Pounds per hour, as determined by a test method prescribed by IDAPA 58.01.01.157, EPA reference test method, continuous emission monitoring system (CEMS) data, or DEQ-approved alternative.

c Tons per any consecutive 12-calendar month period.

d PM_{10} - Particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers, including condensable particulate as defined in IDAPA 58.01.01.006; $PM_{2.5}$ means particulate matter measured by an applicable reference method, including condensable particulate.

e Ammonia

9.4 BACT

The permittee shall not allow $PM/PM_{10}/PM_{2.5}$ emissions from the Urea Loadout Vent in excess of 0.005 grains per dry standard cubic foot of exhaust gas, based on a three test run average.

Operating Requirements

9.5 Conveyors that are located outside of structures shall be covered.

9.6 Railcar and truck loading shall occur within a structure. Visible emissions shall not be observed leaving any opening in the structure for more than 3 minutes in any 60 minute period as determined

by EPA Method 22.

9.7 A filter system shall be used to control emissions from the structure in which railcar or truck loading occurs.

9.8 Within 60 days of initial start-up, the permittee shall have developed a Filter System Procedures document for the inspection and operation of the filter system which controls emissions from the Urea Loadout Vent. The Filter System Procedures document shall be a permittee developed document independent of the manufacturer supplied operating manual but may include summaries of procedures included in the manufacturer supplied operating manual.

Filter System Procedures document shall describe the procedures that will be followed to comply with General Provision 15.2 and shall contain requirements for see-no-see visible emissions inspections of the baghouse once every two weeks. The inspection shall occur during daylight hours and under normal operating conditions.

The Filter System Procedures document shall also include a schedule and procedures for corrective action that will be taken if visible emissions are present from the baghouse at any time. At a minimum the document shall include:

- Procedures to determine if bags or cartridges are ruptured; and
- Procedures to determine if bags or cartridges are not appropriately secured in place.

The Permittee shall maintain records of the results of each filter system inspection in accordance with the General Provisions. The records shall include, but not be limited to, the following:

- Date and time of inspection;
- Equipment inspected (e.g. exterior housing of baghouse, fan motor, auger, inlet air ducting, filters);
- Description of whether visible emissions were present, and if visible emissions were present a description of the corrective action that was taken.
- Date corrective action was taken.

The Filter System Procedures document shall be submitted to DEQ within 60 days of permit issuance and shall contain a certification by a responsible official. Any changes to the Filter System Procedures document shall be submitted within 15 days of the change.

The Filter System Procedures document shall also remain on site at all times and shall be made available to DEQ representatives upon request.

The operating, monitoring and recordkeeping requirements specified in the Filter System Procedures document are incorporated by reference to this permit and are enforceable permit conditions.

Performance Testing Requirements

9.9 Within 180 days after initial startup of the Urea Loadout, the permittee shall conduct performance tests to determine the $PM/PM_{10}/PM_{2.5}$ emission rate in pounds per hour and grains per dry standard cubic foot, and ammonia emission rate in pounds per hour from the Urea Loadout Vent. $PM/PM_{10}/PM_{2.5}$ tests shall be performed using EPA Reference Methods in 40 CFR 60 or DEQ approved alternative. The permittee may presume all measured PM is PM_{10} and $PM_{2.5}$. Condensable

particulate matter emissions are presumed to be insignificant and testing for condensable particulate is not required. Ammonia tests shall be conducted in accordance with a written and DEQ approved testing protocol.

After the initial $PM/PM_{10}/PM_{2.5}$ performance test the permittee shall conduct $PM/PM_{10}/PM_{2.5}$ performance tests at a frequency of no less than once every five years.

After the initial ammonia performance test, future ammonia testing shall be performed according to the following schedule. If the emission rate measured in the most recent test is less than or equal to 75% of the emission limit the next test for that pollutant shall be conducted within five years of the test date. If the rate measured during the most recent performance test is greater than 75%, but less than or equal to 90%, of the emission limit the next test for that pollutant shall be conducted within two years of the test date. If emission rate measured during the most recent performance test is greater than 90% of the emission limits the next test for that pollutant shall be conducted within one year of the test date.

During performance tests the permittee shall record granular urea lead-out rate in tons per hour.

10. Cooling Towers

10.1 Process Description

The facility's cooling system will include two wet cooling towers of mechanical forced-draft design: a 7-cell Process Cooling Tower with a nominal capacity of 121,000 gallons per minute and a 1-cell Wastewater Treatment Plant ("WWTP") Cooling Tower with a nominal capacity of 1,000 gallons per minute. In each tower, cooling water which has been warmed in the process is cooled by rejection of heat to the atmosphere. Cooling water is pumped to the top of a cooling tower cell, and water flows over a series of cooling baffles as gravity pulls it to the basin. As air is forced through the baffles by mechanical fans, a portion of the warm water evaporates, effectively cooling the remaining water supply. During this process, some water droplets and mist that contain small amount of particulate matter are entrained in the airflow, and leave the cooling tower in the form of drift and mist.

High-efficiency drift eliminators are used for emissions control on each cooling tower.

The provisions of this Condition 10.1 shall not be construed as enforceable requirements.

10.2 Control Device Descriptions

Table 10.1. Cooling System Description.

Emissions Units / Processes	Control Devices	Emission Points
Process Cooling Tower Maximum Cooling Water Flow: 121,000 gal/min	Drift Eliminator	Process Cooling Tower
WWTP Cooling Tower Maximum Cooling Water Flow: 1,000 gal/min	Drift Eliminator	WWTP Cooling Tower (Wastewater Cooling Tower)

Equipment Design Standard

10.3 BACT

The permittee shall not operate either the Process Cooling Tower or the WWTP Cooling Tower at any time without drift eliminators designed for a maximum drift level equal to or less than 0.0005 percent and 0.001 percent, respectively, of total circulating water flow rate. Each drift eliminator shall be installed, maintained, and operated consistent with manufacturer's recommendations.

Operating Requirements

10.4 The permittee shall not cause the circulating water flow rates to the Process Cooling Tower and the WWTP Cooling Tower to exceed 121,000 gallons per minute and 1,000 gallons per minute, respectively, on a daily basis.

10.5 The permittee shall maintain, and make available to DEQ representatives upon request the manufacturer's drift eliminators installation, maintenance and operating requirements.

Monitoring and Recordkeeping Requirements

10.6 At least once each calendar day the permittee shall monitor and record the flow rate of the water being cooled in each Cooling Tower. If more than one reading is taken the values shall be averaged to assure compliance with flow rate limit.

10.7 At least once each six months the permittee shall inspect the cooling towers drift eliminators. The permittee shall maintain records of inspections, maintenance, repairs, and replacement activity and any deviation from manufacturer's recommendations regarding to the Cooling Tower drift eliminators.

11. Package Boiler

11.1 Process Description

The Package Boiler is a natural gas-fired boiler used to provide process heat throughout the facility. It has a maximum heat input capacity of 275 MMBtu/hr (HHV).

The provisions of this Condition 11.1 shall not be construed as enforceable requirements.

11.2 Control Device Descriptions

Table 11.1. Package Boiler Description.

Emissions Units / Processes	Control Devices	Emission Points
Package Boiler	n/a	Package Boiler Stack

Emission Limits

11.3 Emission Limits

The emissions from the Package Boiler shall not exceed any corresponding emissions rate limits listed in Table 11.2.

Table 11.2. Package Boiler Emission Limits[a].

Source Description	$PM_{10}/PM_{2.5}$ [b]		NO_x		CO		VOC		GHG
	lb/hr [c]	T/yr [d]	lb/hr [e, f]	T/yr [d]	lb/hr [c]	T/yr [d]	lb/hr [c]	T/yr [d]	T/yr [e]
Package Boiler	2.0	9.0	2.75	12.0	4.1	18.1	1.5	6.5	140,931

a In absence of any other credible evidence, compliance is ensured by complying with permit operating, monitoring, record keeping, and testing requirements.

b PM_{10} - Particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers, including condensable particulate as defined in IDAPA 58.01.01.006; $PM_{2.5}$ means particulate matter measured by an applicable reference method, including condensable particulate.

c Pounds per hour, as determined by a test method prescribed by IDAPA 58.01.01.157, EPA reference test method, continuous emission monitoring system (CEMS) data, or DEQ-approved alternative.

d Tons per any consecutive 12-calendar month period.

e Tons per any consecutive 12-calendar month period, CO_2e basis.

f BACT emission standard, pounds per any 60 minute period.

11.4 BACT

The permittee shall not allow emissions from the Package Boiler in excess of the following limits:

- 0.0075 lb $PM_{10}/PM_{2.5}$ per MMBtu heat input (HHV), based on a three test run average.
- 0.0125 lb NO_X per MMBtu heat input (HHV), based on a rolling 365-day average, including periods of startup, shutdown, and malfunction.
- 0.015 lb CO per MMBtu heat input (HHV), based on a three test run average.
- 0.0054 lb VOC per MMBtu heat input (HHV), based on a three test run average.

Operating Requirements

11.5 The permittee shall not cause to be combusted in the Package Boiler any fuel other than natural gas.

11.6 The permittee shall not cause the heat input rate to the Package Boiler to exceed 6,600 MMBtu per calendar day.

Monitoring and Recordkeeping Requirements

11.7 The permittee shall monitor and record the heat input to the Package Boiler on a daily basis.

11.8 The permittee shall install, maintain, and operate CERMS on the Package Boiler Stack to measure the NO_X and CO_2 concentrations and emission rates in stack gases, including the NO_x emission rate each 60 minute period. The CERMS shall be designed to meet Performance Specifications in 40 CFR 60 or DEQ approved alternatives.

11.9 On a monthly basis the permittee shall calculate and record GHG emissions over the previous consecutive 12-calendar month period (CO_2e basis) as the sum of the CO_2 emission rate measured in accordance with the CERMS and CH_4 and N_2O emission rates calculated using the default emission factors and global warming potentials in 40 CFR 98, subpart C or DEQ approved alternative.

Performance Testing Requirements

11.10 Within 180 days after initial startup of the Package Boiler, the permittee shall conduct performance tests to determine $PM_{10}/PM_{2.5}$, CO, and VOC emission rates. Tests shall be performed using EPA Reference Methods in 40 CFR 60 and 40 CFR 51 or DEQ approved alternative. The permittee may presume all measured PM_{10} is also $PM_{2.5}$.

11.11 During the initial performance tests the permittee shall record heat input rate to the Package Boiler in MMBtu/hr (HHV).

NSPS and MACT Requirements

11.12 40 CFR 60, Subpart Db - Industrial-Commercial-Institutional Steam Generating Units

The permittee shall comply with all applicable provisions of 40 CFR 60, subpart Db.

11.13 40 CFR 63, Subpart DDDDD - Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters

The permittee shall comply with all applicable provisions of 40 CFR 63, subpart DDDDD.

12. Internal Combustion Engines

12.1 Process Description

The facility will include one emergency generator with a rated output of 2,000 kW and one emergency fire water pump with a rated output of 500 brake horsepower ("bhp"). The emergency equipment will be powered by compression-ignition, internal combustion engines burning No. 2 distillate fuel oil with sulfur content of no more than 15 parts per million by weight ("ppmw"). These engines will operate infrequently, primarily for routine testing and as needed during emergencies.

The provisions of this Condition 12.1 shall not be construed as enforceable requirements.

12.2 Control Device Descriptions

Table 12.1. Internal Combustion Engines Description.

Emissions Units / Processes	Control Devices	Emission Points
Emergency Generator Engine Output Capacity: 2,900 bhp	n/a	Emergency Generator Stack
Fire Water Pump Engine Output Capacity: 500 bhp	n/a	Fire Water Pump Engine Stack

BACT and NSPS Emission Standards for Emergency Generator Engine

12.3 Emission Specifications for Emergency Generator Engine under 40 CFR 60, Subpart IIII

Pursuant to 40 CFR § 60.4202(a)(2) and § 60.4205(b), the permittee shall comply with the emission standards for new nonroad, compression ignition engines as set forth in 40 CFR § 89.112, as follows:

- The specification for combined NO_X and non-methane hydrocarbons emissions is 6.4 grams per kilowatt hour ("g/kWh"), as determined by the engine manufacturer using the nonroad engine testing procedures set forth at 40 CFR §§ 89.401 to 89.424.
- The specification for CO emissions is 3.5 g/kWh, as determined by the engine manufacturer using the nonroad engine testing procedures set forth at 40 CFR §§ 89.401 to 89.424.
- The specification for PM emissions is 0.2 g/kWh, as determined by the engine manufacturer using the nonroad engine testing procedures set forth at 40 CFR §§ 89.401 to 89.424.

Should there be a conflict between this permit condition and 40 CFR 60, Subpart IIII, 40 CFR 60, Subpart IIII shall govern.

12.4 Emission Specifications for Fire Water Pump Engine under 40 CFR 60, Subpart IIII

Pursuant to 40 CFR § 60.4205(c), the permittee shall comply with the emission standards for new nonroad, compression ignition engines as set forth in Table 4 of subpart IIII, as follows:

- The specification for combined NO_X and non-methane hydrocarbons emissions is 3.0 grams per brake horsepower hour ("g/bhp-hr"), as determined by the engine manufacturer using the nonroad engine testing procedures set forth at 40 CFR §§ 89.401 to 89.424 and at Table 4 of subpart IIII.

- The specification for CO emissions is 2.6 g/bhp-hr, as determined by the engine manufacturer using the nonroad engine testing procedures set forth at 40 CFR §§ 89.401 to 89.424 and at Table 4 of subpart IIII.
- The specification for PM emissions is 0.15 g/kWh, as determined by the engine manufacturer using the nonroad engine testing procedures set forth at 40 CFR §§ 89.401 to 89.424 and at Table 4 of subpart IIII.

Should there be a conflict between this permit condition and 40 CFR 60, Subpart IIII, 40 CFR 60, Subpart IIII shall govern.

12.5 BACT for Greenhouse Gas Emissions

The permittee shall not allow GHG emissions from the Emergency Generator Engine or the Fire Water Pump Engine in excess of 22.6 pounds per gallon of fuel burned, on a CO_2e basis.

Operating Requirements

12.6 The permittee shall not cause the Emergency Generator Engine or Fire Water Pump Engine to be operated for any purpose other than emergency operation, maintenance checks, or readiness testing.

The Emergency Generator Engine and Fire Water Pump Engine may be operated for the purpose of maintenance checks and readiness testing in accordance with 40 CFR § 60.4211(f).

The permittee shall not cause the Emergency Generator Engine to operate more than one hour per week for maintenance or testing purposes.

The permittee shall not cause the Fire Water Pump Engine to operate more than two hours per week for maintenance or testing purposes.

The engines shall not use fuel oil with sulfur content of more than 15 parts per million by weight ("ppmw").

There is no time limit on the use of emergency stationary internal combustion engines in emergency situations.

12.7 The permittee shall maintain and operate the Emergency Generator Engine and the Fire Water Pump Engine according to the manufacturers' written instructions or procedures developed by the permittee that are approved by the manufacturer.

12.8 The permittee shall not cause to be combusted in the Emergency Generator Engine or the Fire Water Pump Engine any fuel other than No. 2 diesel fuel meeting the requirements of 40 CFR § 60.4207.

Monitoring and Recordkeeping Requirements

12.9 The permittee shall install non-resettable hour meters on the Emergency Generator Engine and the Fire Water Pump Engine prior to startup of each engine and shall operate each engine only with the hour meter operational.

The permittee shall record the hours of operation of each engine on each calendar day during which the engine operates and shall note whether the operation is for maintenance or testing purposes, emergency use, or another purpose. The permittee shall also keep records of fuel sulfur content.

12.10 On a monthly basis, the permittee shall maintain records of fuel consumption in the Emergency Generator Engine and the Fire Water Pump Engine, in gallons, and shall calculate and record GHG emissions (CO_2e basis) using the default emission factors and high heat values in 40 CFR part 98, subpart C.

MACT Requirements

12.11 40 CFR 63, Subpart ZZZZ

The Fire Water Pump engine shall comply with 40 CFR 63, subpart ZZZZ by complying with all applicable provisions of 40 CFR 60, subpart IIII.

13. Storage Tanks

13.1 Process Description

The facility will include a total of sixteen storage vessels with the potential to emit regulated pollutants. Seven tanks will store intermediates and products (one Ammonia Storage Tank, one Nitric Acid Storage Tank, four UAN Storage Tanks, and one DEF Storage Tank), three will store fuels (two Diesel Storage Tanks and one Gasoline Storage Tank), and six will store raw materials (four Sulfuric Acid Storage Tanks, one Amine Storage Tank, and one UF-85 Storage Tank).

The Ammonia Storage Tank will be an insulated tank, operating at atmospheric pressure, with refrigeration systems to maintain the ammonia at the design temperature of -27 °F. During emergency or upset conditions under which ammonia vapor would otherwise be released to the atmosphere from the Ammonia Storage Tank, the ammonia vapor will be sent to the dedicated Ammonia Storage Flare for safe disposal.

The remaining tanks will operate at atmospheric pressure and temperature and will not be equipped with any air pollution control devices.

The provisions of this Condition 13.1 shall not be construed as enforceable requirements.

13.2 Control Device Descriptions

Table 13.1. Storage Tanks Description.

Emissions Units / Processes	Control Devices	Emission Points
Ammonia Storage Tank Capacity: 33,000 tons	Ammonia Storage Flare Unassisted flare, using natural gas as pilot fuel	Ammonia Storage Flare
Nitric Acid Storage Tank Capacity: 444,000 gallons	n/a	Nitric Acid Tank Vent
UAN Storage Tanks (4) Capacity: 9.8 million gallons (each)	n/a	UAN Tank Vents (4)
DEF Storage Tank Capacity: 6.5 million gallons	n/a	DEF Tank Vent
Generator Diesel Storage Tank Capacity: 3,000 gallons	n/a	Generator Diesel Tank Vent
Fire Pump Diesel Storage Tank Capacity: 660 gallons	n/a	Fire Pump Diesel Tank Vent
Gasoline Storage Tank Capacity: 2,000 gallons	n/a	Gasoline Tank Vent
Sulfuric Acid Storage Tanks (4) Capacity: 10,500 gallons (each)	n/a	Sulfuric Acid Tank Vents (4)
Amine Storage Tank Capacity: 14,500 gallons	n/a	Amine Tank Vent
UF-85 Storage Tank Capacity: 64,300 gallons	n/a	UF-85 Tank Vent

Operating Requirements

13.3 The permittee shall install, maintain, and operate a flare to control emissions of ammonia from the Ammonia Storage Tank. The flare shall be an elevated flare that:

- Meets all requirements of 40 CFR §60.18 applicable to non-assisted flares. Including no visible emissions, operating with a flame present at all times as determined by a flame detector, and exit velocity requirements;
- Is served by a pilot that burns natural gas exclusively;
- Is operated at all times in accordance with good combustion practices by complying with all requirements of 40 CFR §60.18 applicable to non-assisted flares; and
- Includes a system for recording the date, time, duration of each occurrence of venting of gases to the flare, and total flow of vented gases and pilot gas in standard cubic feet per minute to the flare, whenever process gas is vented to the process flare.

Venting to the flare shall be limited to malfunction events.

The facility shall conduct a root cause analysis and implement corrective actions following any flaring event attributable to malfunction. The permittee shall prepare a report on the results of the root cause analysis. The report shall include a description of what caused the malfunction, the duration of the malfunction, corrective actions taken, and steps to be taken to prevent the malfunction in the future. Each report shall be maintained on-site and made available to DEQ representatives upon request.

MACT Requirements

13.4 40 CFR 63, Subpart FFFF

The permittee shall comply with all applicable provisions of 40 CFR 63, subpart FFFF, with respect to the UF-85 Storage Tank.

14. Facility-Wide Requirements

Fugitive Emissions

14.1 Reasonable Precautions

All reasonable precautions shall be taken to prevent fugitive dust from becoming airborne in accordance with IDAPA 58.01.01.650-651. In determining what is reasonable, consideration will be given to factors such as the proximity of dust emitting operations to human habitations and/or activities and atmospheric conditions that might affect the movement of particulate matter.

Reasonable precautions include, but are not limited to, the following, where practical:

- Use of Water or Chemicals. Use of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land.
- Application of Dust Suppressants. Application of asphalt, oil, water, or suitable chemicals to, or covering of, dirt roads, material stockpiles, and other surfaces which can create dust.
- Use of Control Equipment. Installation and use of hoods, fans, fabric filters, or equivalent systems to enclose and vent the handling of dusty materials. Adequate containment methods should be employed during sandblasting or other operations.
- Covering of Trucks. Covering of open bodied trucks transporting materials likely to give rise to airborne dusts.
- Paving. Paving of roadways and their maintenance in a clean condition.
- Removal of Materials. Prompt removal of earth or other stored material from streets.

14.2 BACT

The permittee shall pave of all plant roads that will be used for raw material and product transport.

14.3 Monitoring and Recordkeeping

The permittee shall monitor and maintain records of the frequency and the method(s) used (*e.g.*, water, chemical dust suppressants) to reasonably control fugitive dust emissions.

14.4 Quarterly Inspections

The permittee shall conduct a quarterly facility wide inspection of potential sources of fugitive emissions, during daylight hours and under normal operating conditions, to ensure that the methods used to reasonably control fugitive emissions are effective. If fugitive emissions are not being reasonably controlled, the permittee shall take corrective action as expeditiously as practicable. The permittee shall maintain records of the results of each fugitive emissions inspection. The records shall include, at a minimum, the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time fugitive emissions were present (if observed), any corrective action taken in response to the fugitive emissions, and the date the corrective action was taken.

If emissions are observed from any opening in the Railcar and Truck Loading structure during the inspections the permittee shall conduct an EPA Method 22 visual emissions observation to assure compliance with Permit Condition 9.6.

14.5 Corrective Actions

The permittee shall maintain records of all fugitive dust complaints received. The permittee shall take appropriate corrective action as expeditiously as practicable. The records shall include, at a

minimum, the date that each complaint was received and a description of the following: the complaint, any corrective action taken, and the date the corrective action was taken.

Odors

14.6 Prohibition

In accordance with 58.01.01.776.02 the permittee shall not allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids to the atmosphere in such quantities as to cause air pollution.

14.7 Corrective Actions

The permittee shall maintain records of all odor complaints received. The permittee shall take appropriate corrective action as expeditiously as practicable. The records shall include, at a minimum, the date that each complaint was received and a description of the following: the complaint, any corrective action taken, and the date the corrective action was taken.

Visible Emissions

14.8 Opacity Standard

The permittee shall not discharge any air pollutant to the atmosphere from any point of emission for a period or periods aggregating more than three minutes in any 60-minute period which is greater than 20 percent opacity as determined by procedures contained in IDAPA 58.01.01.625. These provisions shall not apply when the presence of uncombined water, nitrogen oxides, and/or chlorine gas is the only reason for the failure of the emission to comply with the requirements of this section

14.9 Quarterly Inspections

The permittee shall conduct quarterly facility-wide inspection of potential sources of visible emissions, during daylight hours and under normal operating conditions. Sources that are monitored using a continuous opacity monitoring system (COMS) are not required to comply with this permit condition. The inspection shall consist of a see/no see evaluation for each potential source of visible emissions. If any visible emissions are present from any point of emission, the permittee shall either:

a) take appropriate corrective action as expeditiously as practicable to eliminate the visible emissions. Within 24 hours of the initial see/no see evaluation and after the corrective action, the permittee shall conduct a see/no see evaluation of the emissions point in question. If the visible emissions are not eliminated, the permittee shall comply with b).

or

b) perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test. If opacity is greater than 20%, as measured using Method 9, for a period or periods aggregating more than three minutes in any 60-minute period, the permittee shall take all necessary corrective actions and report the period or periods as an excess emission in the annual compliance certification and in accordance with IDAPA 58.01.01.130–136.

Continuous Emission Rate Monitors (CERMS)

14.10 All CERMS required by this permit shall be operated in accordance with a written and DEQ approved monitoring protocols. The protocol shall address:

- Emissions calculation methodology;

- Measurement frequency;
- Downtime/missing data; and
- Fuel/Heat input or production rate monitoring where applicable.

The monitoring protocols shall be submitted within 60 days of startup. The permittee may reference any applicable federal requirements in the protocols.

NSPS and NESHAP Requirements

14.11 General Provisions

The permittee shall comply with all applicable provisions of 40 CFR 60, subpart A; 40 CFR 61, subpart A; and 40 CFR 63, subpart A.

14.12 40 CFR Part 61, Subpart FF

The permittee shall comply with all applicable provisions of 40 CFR 61, subpart FF.

Source Tests

14.13 Source tests shall be conducted under "worst case normal" conditions as required by IDAPA 58.01.01.157. Source test reports shall contain documentation that the tests were conducted under these conditions.

Reporting

14.14 Reporting

All requests, reports, applications, submittals, certifications, and other communications required by this permit shall be submitted to:

Air Quality Permit Compliance
Department of Environmental Quality
Pocatello Regional Office
444 Hospital Way #300
Pocatello, Idaho 83201

15. General Provisions

General Compliance

15.1 The permittee has a continuing duty to comply with all terms and conditions of this permit. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the "Rules for the Control of Air Pollution in Idaho." The emissions of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit, the "Rules for the Control of Air Pollution in Idaho," and the Environmental Protection and Health Act (Idaho Code §39-101, et seq.)

[Idaho Code §39-101, et seq.]

15.2 The permittee shall at all times (except as provided in the "Rules for the Control of Air Pollution in Idaho") maintain in good working order and operate as efficiently as practicable all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

[IDAPA 58.01.01.211, 5/1/94]

15.3 Nothing in this permit is intended to relieve or exempt the permittee from the responsibility to comply with all applicable local, state, or federal statutes, rules, and regulations.

[IDAPA 58.01.01.212.01, 5/1/94]

Inspection and Entry

15.4 Upon presentation of credentials, the permittee shall allow DEQ or an authorized representative of DEQ to do the following:

- Enter upon the permittee's premises where an emissions source is located, emissions-related activity is conducted, or where records are kept under conditions of this permit;
- Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;
- Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
- As authorized by the Idaho Environmental Protection and Health Act, sample or monitor, at reasonable times, substances or parameters for the purpose of determining or ensuring compliance with this permit or applicable requirements.

[Idaho Code §39-108]

Construction and Operation Notification

15.5 In accordance with 40 CFR 52.21(r)(2) approval to construct shall become invalid if construction is not commenced within 30-months after receipt of such approval, if construction is discontinued for a period of 30-months or more, or if construction is not completed within a reasonable time.

[40 CFR 52.21(r)]

15.6 The permittee shall furnish DEQ written notifications as follows:

- A notification of the date of initiation of construction, within five working days after occurrence; except in the case where pre-permit construction approval has been granted then notification shall be made within five working days after occurrence or within five working days after permit issuance whichever is later;
- A notification of the date of any suspension of construction, if such suspension lasts for one year or more;

- A notification of the anticipated date of initial start-up of the stationary source or facility not more than sixty days or less than thirty days prior to such date; and
- A notification of the actual date of initial start-up of the stationary source or facility within fifteen days after such date; and
- A notification of the initial date of achieving the maximum production rate, within five working days after occurrence - production rate and date.

[IDAPA 58.01.01.211.03, 5/1/94]

Performance Testing

15.7 If performance testing (air emissions source test) is required by this permit, the permittee shall provide notice of intent to test to DEQ at least 15 days prior to the scheduled test date or shorter time period as approved by DEQ. DEQ may, at its option, have an observer present at any emissions tests conducted on a source. DEQ requests that such testing not be performed on weekends or state holidays.

15.8 All performance testing shall be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior DEQ approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by DEQ for any testing deviations, DEQ may determine that the testing does not satisfy the testing requirements. Therefore, at least 30 days prior to conducting any performance test, the permittee is encouraged to submit a performance test protocol to DEQ for approval. The written protocol shall include a description of the test method(s) to be used, an explanation of any or unusual circumstances regarding the proposed test, and the proposed test schedule for conducting and reporting the test.

15.9 Within 60 days following the date in which a performance test required by this permit is concluded, the permittee shall submit to DEQ a performance test report. The written report shall include a description of the process, identification of the test method(s) used, equipment used, all process operating data collected during the test period, and test results, as well as raw test data and associated documentation, including any approved test protocol.

[IDAPA 58.01.01.157, 4/5/00]

Monitoring and Recordkeeping

15.10 The permittee shall maintain sufficient records to ensure compliance with all of the terms and conditions of this permit. Monitoring records shall include, but not be limited to, the following: (a) the date, place, and times of sampling or measurements; (b) the date analyses were performed; (c) the company or entity that performed the analyses; (d) the analytical techniques or methods used; (e) the results of such analyses; and (f) the operating conditions existing at the time of sampling or measurement. All monitoring records and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes, but is not limited to, all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. All records required to be maintained by this permit shall be made available in either hard copy or electronic format to DEQ representatives upon request.

[IDAPA 58.01.01.211, 5/1/94]

Excess Emissions

15.11 The permittee shall comply with the procedures and requirements of IDAPA 58.01.01.130–136 for excess emissions due to start-up, shut-down, scheduled maintenance, safety measures, upsets, and breakdowns.

[IDAPA 58.01.01.130–136, 4/5/00]

Certification

15.12 All documents submitted to DEQ—including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certification—shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

[IDAPA 58.01.01.123, 5/1/94]

False Statements

15.13 No person shall knowingly make any false statement, representation, or certification in any form, notice, or report required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.125, 3/23/98]

Tampering

15.14 No person shall knowingly render inaccurate any monitoring device or method required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.126, 3/23/98]

Transferability

15.15 This permit is transferable in accordance with procedures listed in IDAPA 58.01.01.209.06.

[IDAPA 58.01.01.209.06, 4/11/06]

Tier I Operating Permit

15.16 In accordance with IDAPA 58.01.01.313.01.b, the permittee shall submit a complete application to DEQ for an initial Tier I operating permit within 12 months of becoming a Tier I source or commencing operation.

[IDAPA 58.01.01.313]

Severability

15.17 The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

[IDAPA 58.01.01.211, 5/1/94]