AIR QUALITY DIVISION
CHAPTER 6, SECTION 3
OPERATING PERMIT

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
122 West 25th Street
Cheyenne, Wyoming 82002

PERMIT NO. 3-1-127

Issue Date: **September 5, 2012**
Expiration Date: **September 5, 2017**
Effective Date: **September 5, 2012**
Replaces Permit No.: **30-127**

In accordance with the provisions of W.S. §35-11-203 through W.S. §35-11-212 and Chapter 6, Section 3 of the Wyoming Air Quality Standards and Regulations,

Dyno Nobel Inc.
Cheyenne Plant
Sections 16 West/17 East, Township 13 North, Range 67 West
Laramie County, Wyoming

is authorized to operate a stationary source of air contaminants consisting of emission units described in this permit. The units described are subject to the terms and conditions specified in this permit. All terms and conditions of the permit are enforceable by the State of Wyoming. All terms and conditions of the permit, except those designated as not federally enforceable, are enforceable by EPA and citizens under the Act. A copy of this permit shall be kept on-site at the above named facility.

Steven A. Dietrich, Administrator
Air Quality Division

9-5-12
Date

John V. Corra, Director
Department of Environmental Quality

9/10/12
Date

WAQSR CHAPTER 6, SECTION 3 OPERATING PERMIT

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

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GENERAL INFORMATION

Company Name: **Dyno Nobel Inc.**

Mailing Address: **P.O. Box 1287**

City: **Cheyenne** State: **WY** Zip: **82003**

Plant Name: **Cheyenne Plant**

Plant Location: **Sections 16 West/17 East, Township 13 North, Range 67 West, Laramie County, WY (8305 Otto Road, about 5 miles west of Cheyenne, WY)**

Plant Mailing Address: **P.O. Box 1287**

City: **Cheyenne** State: **WY** Zip: **82003**

Name of Owner: **Dyno Nobel Inc.** Phone: **(307) 637-2700**

Responsible Official: ***Lars C. Story II (Amended May 8, 2014)*** Phone: **(307) 771-5623**

Plant Manager/Contact: **Barbara Cabot** Phone: **(307) 771-5644**

DEQ Air Quality Contact: **District 1 Engineer**
122 West 25th Street
Cheyenne, Wyoming 82002 Phone: **(307) 777-7391**

SIC Code: **2813, 2819, 2869, 2873, and 2899**

Description of Process: **The Dyno Nobel facility consists of a 530 ton per day (TPD) ammonia plant, two 125 TPD nitric acid plants (#1 & #2), a 580 TPD nitric acid plant (#3), a 455 TPD nitric acid plant (#4), a 375 TPD agricultural grade ammonium nitrate (HIDAN) plant, a 900 TPD industrial grade ammonium nitrate (LODAN) plant, and a 350 TPD urea plant.**

SOURCE EMISSION POINTS

This table may not include any or all insignificant activities at this facility.

SOURCE ID#	SOURCE DESCRIPTION	SIZE	CH.6, SEC. 2 PERMITS/WAIVERS
	AMMONIA PLANT		
P002	Carbon Bed Desulfurizers	10 MMSCFD	None
P005	Foster Wheeler Reformer Furnace	180 MMBtu/hr	6/18/92 Waiver
P042	Cooper Bessemer Engine (South) [1]	4,811 hp	MD-336
P043	Cooper Bessemer Engine (North) [1]	4,811 hp	MD-336
P045	White Superior Engine (Creole) [2]	600 hp	MD-336
P046	Cummins Engine (East) [2]	300 hp	MD-1502A
P047	Cummins Engine (West) [2]	300 hp	MD-1502A
None	John Deere 4239 TF Diesel-Fired Emergency Generator Engine	106 hp	None
None	Caterpillar 3306B Diesel-Fired Emergency Fire Water Pump Engine	220 hp	AP-WV9
P444	#2 Auxiliary Boiler (#2-Aux)	61.5 MMBtu/hr	MD-70
P445	#1 Auxiliary Boiler (#1-Aux)	51.2 MMBtu/hr	5/24/93 Waiver
P455	Primary Cooling Tower	50,000 gpm	None
P458	Litwin Compressor Vent	80 lb/hr NH_3 gas	None
P453	Ammonia Plant Fugitive Emissions	N/A	None
P454	Ammonia Pond Fugitive Emissions	N/A	None
S-101	Ammonia Flare (P456) [3]	N/A	4/23/82 Waiver
ST-102	Ammonia Storage Tank [3]	30,000 tons	None
S-102	Ammonia Flare [3]	N/A	wv-11691, wv-13114
ST-103	Ammonia Storage Tank [3]	15,000 tons	wv-11691, wv-13115
None	Start-up Heater	3.4 MMBtu/hr	None
	NITRIC ACID PLANTS		
P143	Nitric Acid Plant (#1 Acid)	125 TPD	MD-336, 9/1/99 Waiver
P169	Nitric Acid Plant (#2 Acid)	125 TPD	MD-336, 9/1/99 Waiver
P189	Nitric Acid Plant (#3 Acid)	580 TPD	OP-191, Waivers 6/3/92, 9/1/99
N005	Nitric Acid Plant (#4 Acid)	455 TPD	MD-1502A
P429	#4 Nitric Acid Cooling Tower	27,600 gal/min	None
	HIDAN PLANT		
V-230	Neutralizer (scrubber V-230)	NA	AP-0251
	LODAN PLANT		
P268	#1 LODAN Prill Tower (H-421)	900 TPD	OP-191
P287	#1 LODAN Wash Tower (V-416)	900 TPD	OP-191
P459	#1 LODAN Cooling Tower	9,500 gal/min	None
N001	#2 LODAN Neutralizer and Evaporator	401,208 TPD	MD-1502A

None	Ford LSG-875IT Natural Gas-Fired Emergency Generator [4]	85 KW (170 hp)	AP-W86
None	Caterpillar 3406BDIT Diesel-Fired Emergency Fire Water Engine	308 hp	None
UREA PLANT			
P342	Urea Plant Hotwell Scrubber (V-811)	350 TPD	MD-166
P382	Urea Evaporator (E-401)	165.6 TPD	OP-191, MD-166
P391	Urea Prill Tower (R-401)	165.6 TPD	OP-191, MD-166
P450	Urea Auxiliary Boiler (D-301)	26.4 MMBtu/hr	OP-191
EMULSION PLANT			
Akzo	AkzoNobel Horizontal Expander	N/A	wv-12045

[1] Engine is a 2 stroke lean burn
[2] Engine is 4-stroke rich burn controlled with non-selective catalytic reduction (NSCR) catalysts
[3] Upon completion of the project under waiver wv-13115, the conditions of waiver wv-11691 shall be superseded.
[4] Engine is 4-stroke rich burn

TOTAL FACILITY ESTIMATED EMISSIONS

For informational purposes only. These emissions are not to be assumed as permit limits.

POLLUTANT	EMISSIONS (TPY)
CRITERIA POLLUTANT EMISSIONS	
Particulate Matter	538
PM_{10} Particulate Matter	538
Sulfur Dioxide (SO_2)	1.0
Nitrogen Oxides (NO_X)	2002
Carbon Monoxide (CO)	257
Volatile Organic Compounds (VOCs)	57
HAZARDOUS AIR POLLUTANT (HAP) EMISSIONS	8
Ammonia (NH_3)	510

Emission estimates are from the operating permit renewal application.

FACILITY-SPECIFIC PERMIT CONDITIONS

Source-Specific Permit Conditions

AMMONIA PLANT REQUIREMENTS

(F1) AMMONIA PLANT VISIBLE EMISSIONS
[WAQSR Ch 3, Sec 2; Ch 3, Sec 6(b)(i); Ch 6, Sec 2 Waivers wv-11691 and wv-13115]

(a) Visible emissions of any contaminant discharged into the atmosphere from sources installed after 2/10/70, including the following, shall not exhibit greater than 20% opacity except for one period or periods aggregating not more than six minutes in any one hour of not more than 40% opacity: the Foster Wheeler reformer furnace (P005), Creole White Superior compressor engine (P045), east and west Cummins engines (P046 and P047), #1 and #2 auxiliary boiler (P445 and P444), ammonia flare S-101, and the Ford LSG-875IT emergency engine.

(b) Visible emissions from the John Deere 4239, Caterpillar 3306B, and Caterpillar 3406BDIT diesel-fired emergency engines shall not exceed 30% opacity except for periods not exceeding ten consecutive seconds. This limitation shall not apply during a reasonable period of warm-up following a cold start or where undergoing repairs and adjustment following a malfunction.

(c) The emergency ammonia flare (S-102) shall be designed, constructed, operated and maintained to be smokeless, with no visible emissions except for periods not to exceed a total of five minutes during any two consecutive hours as determined by 40 CFR part 60, appendix A, Method 22.

(d) Visible emissions from sources installed before 2/10/70, including the south and north Cooper Bessemer engines (P042 and P043) and the startup heater, shall not exceed 40 percent opacity.

(F2) AMMONIA FLARE [WAQSR Ch 6, Sec 2 Waivers wv-11691 and wv-13115]
The permittee shall maintain and operate the emergency ammonia flare (S-102) such that the device remains effective as a viable emission control device during an emergency situation.

(a) The presence of a pilot flame shall be monitored using a thermocouple and continuous recording device or any equivalent device to detect the presence of a flame.

(b) Upon completion of the project under wv-13115, pressure relief valve PSA-123A on ammonia storage tank ST-103 shall be routed to the flare.

(c) The flare shall be maintained and operated to be smokeless as indicated by condition F1(c).

(F3) ENGINES [WAQSR Ch 6, Sec 2 Permits/Waivers AP-W86, MD-336, AP-WV9, MD-1502A]

(a) NO_X and CO emissions shall not exceed the limits specified in Table I.

(b) Compliance with the g/hp-hr limits is considered compliance with the lb/hr and TPY limits as long as each engine is operated at or below its site-rated capacity.

TABLE I. COMPRESSOR ENGINE EMISSION LIMITS

Engine Description	NO_X			CO		
	g/hp-hr	lb/hr	TPY	g/hp-hr	lb/hr	TPY
South Cooper Bessemer Engine (P042)	16.1	170.61	747.3	1.3	13.78	60.3
North Cooper Bessemer Engine (P043)	16.1	170.61	747.3	1.3	13.78	60.3
Creole White Superior (P045)	2.0	2.64	11.6	2.0	2.64	11.6
East Cummins (P046)	1.0	0.8	3.7	1.0	0.8	3.7
West Cummins (P047)	1.0	08	3.7	1.0	0.8	3.7

(c) For engines P046 and P047, the permittee shall operate and maintain the engines, air pollution control equipment, and monitoring equipment according to good air pollution control practices at all times, including startup, shutdown, and malfunction.

(d) The Caterpillar 3306B emergency firewater pump engine shall not operate more than 500 hours per calendar year.

(e) The Ford LSG-875IT emergency engine shall not operate more than 120 hours per calendar year.

(f) Requirements for visible emissions from the engines are indicated under condition F1(a) and (b).

(g) Should an engine break down or require an overhaul, the permittee may bring on site and operate a temporary replacement engine until repairs are made. Permanent replacement of an engine **must** be evaluated by the Division under Ch 6, Sec 2 of WAQSR to determine appropriate permitting action and evaluate the need for additional requirements resulting from the permanent replacement.

(i) The temporary replacement unit shall be identical or similar to the unit replaced with emission levels at or below those of the unit replaced.

(ii) The permittee shall notify the Division in writing of such replacement within five working days, provide the date of startup of the replacement, and provide a statement regarding the applicability of any New Source Performance Standards (NSPS) in 40 CFR Part 60; any National Emission Standards for Hazardous Air Pollutants (NESHAPs) in 40 CFR Part 63; and Compliance Assurance Monitoring (CAM) in WAQSR Ch 7, Sec 3.

(F4) FUEL BURNING EQUIPMENT: FOSTER WHEELER REFORMER FURNACE, #1 AND #2 AUXILIARY BOILERS, AND START-UP HEATER

[WAQSR Ch 3, Sec 3; Ch 6, Sec 2 Permit MD-70, and June 18, 1992 and May 24, 1993 Waivers]

(a) For the Foster Wheeler reformer furnace (P005):

(i) The firing rate shall not exceed 180 MMBtu/hr.

(ii) NO_X emissions from the furnace shall not exceed 0.16 lb/MMBtu heat input or 28.2 lb/hr.

(b) For the #1-Aux boiler (P445):

(i) NO_X emissions from shall not exceed 0.20 lb/MMBtu heat input, 10.4 lb/hr, and 10.4 TPY.

(ii) The boiler shall not exceed 2000 hours of operation per calendar year.

(c) For the #2-aux boiler (P444), NO_X emissions shall not exceed 0.20 lb/MMBtu heat input or 12.3 lb/hr.

(d) For the start-up heater, NO_X emissions shall not exceed 0.23 lb/MMBtu heat input.

(F5) Reserved

(F6) COMMENCEMENT OF CONSTRUCTION [WAQSR Ch 6, Sec 2 Waivers wv-11691 and wv-13115]

Approval to construct or modify under waivers wv-11691 and wv-13115 shall become invalid if construction is discontinued for a period of 24 months or more. The Administrator may extend the period based on satisfactory justification of the requested extension.

(a) Installation notification shall be submitted to the Division within 15 days of installation of the 15,000 ton ammonia storage tank (ST-103) and emergency ammonia flare (S-102).

(b) Notification shall be submitted to the Division within 15 days of resetting the pressure relief valves PSV-123A and PSV-123B, installation of the block valve to emergency ammonia flare S-102, and completion of the project under wv-13115.

NITRIC ACID PLANTS REQUIREMENTS

(F7) NITRIC ACID PLANTS VISIBLE EMISSIONS

[WAQSR Ch 3, Sec 2; Ch 6, Sec 2 Permit MD-1502A; 40 CFR 60 Subpart G]

(a) Visible emissions from the #1 and #2 nitric acid plants (P143 and P169), and any other sources installed before 2/10/70, shall not exceed 40% opacity.

(b) Visible emissions from the #3 and #4 nitric acid plants (P189 and N005) shall not exhibit opacity of 10% or greater. On the date of issuance of this permit, compliance with this opacity limit is considered compliance with 40 CFR 60 Subpart G, §60.72(a)(2).

(c) Visible emissions from any other emission source installed after 2/10/70 shall not exhibit greater than 20% opacity except for one period or periods aggregating not more than six minutes in any one hour of not more than 40% opacity.

(F8) NITRIC ACID PLANT NO_X EMISSIONS [WAQSR Ch 6, Sec 2 Permits OP-191, MD-336 and MD-1502A, Waiver June 3, 1992; 40 CFR 60 Subpart G]

(a) NO_X emissions from the #1 and #2 nitric acid plants (P143 and P169) shall not exceed 1.15 lb of NO_2 per ton of acid produced and 6.0 lb/hr from each plant.

(b) NO_X emissions from the #3 nitric acid plant (P189) shall not exceed 2.11 lb/ton of acid produced, expressed as 100 percent nitric acid, or 51.0 lb/hr. On the date of issuance of this permit, compliance with these limits is considered compliance with 40 CFR 60 Subpart G, §60.72(a)(1).

(c) NO_X emissions from the #4 nitric acid plant (N005) shall not exceed 1.9 lb/ton of acid produced, expressed as 100 percent nitric acid, or 36.0 lb/hr. On the date of issuance of this permit, compliance with these limits is considered compliance with 40 CFR 60 Subpart G, §60.72(a)(1).

(F9) NITRIC ACID PLANT PRODUCTION AND REQUIREMENTS
[WAQSR Ch 6, Sec 2 Permits MD-336 and MD-1502A, and June 3, 1992 and September 1, 1999 Waivers]

(a) The production rate for the #1 and #2 nitric acid plants (P143 and P169) shall not exceed 125 TPD for each plant.

(b) The production rate for the #3 nitric acid plant (P189) shall not exceed 580 TPD, expressed as 100 percent nitric acid.

(c) The production rate for the #4 nitric acid plant (N005) shall not exceed 455 TPD, expressed as 100 percent nitric acid.

(d) The permittee shall notify the Division in writing (by fax or letter) within 24 hours each time an acid plant is shutdown, the cause of the shutdown, and when the acid plant was restarted.

HIDAN PLANT REQUIREMENTS

(F10) HIDAN PLANT VISIBLE EMISSIONS [WAQSR Ch 3, Sec 2]

(a) Visible emissions from any emission unit installed before 2/10/70 shall not exceed 40% opacity.

(b) Visible emissions from any emission source installed after 2/10/70, including the HIDAN neutralizer (V-230), shall not exhibit greater than 20% opacity except for one period or periods aggregating not more than six minutes in any one hour of not more than 40% opacity.

(F11) AMMONIUM NITRATE PRODUCTION [WAQSR Ch 6, Sec 2 Waiver AP-0251]

(a) The production rate for the HIDAN neutralizer (V-230) shall not exceed 375 TPD.

(b) The HIDAN neutralizer shall use a scrubber to reclaim ammonia contaminated condensate and shall not vent directly to the atmosphere.

LODAN PLANT REQUIREMENTS

(F12) LODAN PLANT VISIBLE EMISSIONS
[WAQSR Ch 3, Sec 2 and WAQSR Ch 6, Sec 2 Permits OP-191 and MD-1502A]

(a) Visible emissions from the LODAN prill tower (P268), wash tower (P287), and neutralizer and evaporator (N001) shall not exceed 20% opacity.

(b) Reserved

(c) Requirements for visible emissions from the Ford LSG emergency engine are indicated under condition F1(a). Requirements for visible emissions from the Caterpillar 3406BDIT emergency engine are indicated under condition F1(b).

(d) Visible emissions of any contaminant discharged into the atmosphere from any other emission unit at the LODAN plant shall not exhibit greater than 20% opacity, except for one period or periods aggregating not more than six minutes in any one hour of not more than 40% opacity.

(F13) LODAN PLANT PARTICULATE EMISSIONS [WAQSR Ch 6, Sec 2 Permits OP-191 and MD-1502A]

(a) The particulate emissions for the #1 LODAN prill tower (P268) shall not exceed 27.7 lb/hr.

(b) The particulate emissions for the #1 LODAN wash tower (P287) shall not exceed 27.7 lb/hr.

(c) The particulate emissions for the #2 neutralizer and evaporator (N001) shall not exceed 6.9 lb/hr.

(F14) LODAN ENGINE OPERATING LIMIT [WAQSR Ch 6, Sec 2 Waiver AP-W86]
The Ford LSG emergency engine shall not exceed 120 hours/year of operation as indicated in condition F3(e).

UREA PLANT REQUIREMENTS

(F15) UREA PLANT VISIBLE EMISSIONS [WAQSR Ch 3, Sec 2]

(a) Visible emissions from units installed after 2/10/70, including the urea plant Hotwell scrubber (P342), shall not exhibit greater than 20% opacity except for one period or periods aggregating not more than six minutes in any one hour of not more than 40% opacity.

(b) Visible emissions from units installed before 2/10/70, including the urea evaporator (P382), urea prill tower (P391), and urea auxiliary boiler (P450), shall not exceed 40% opacity.

(F16) UREA PLANT PARTICULATE EMISSIONS [WAQSR Ch 6, Sec 2 Permit OP-191]

(a) Particulate emissions from the urea evaporator (P382) shall not exceed 15.8 lb/hr.

(b) Particulate emissions from the urea prill tower (P391) shall not exceed 43.1 lb/hr.

(F17) UREA PLANT NO_X AND AMMONIA EMISSIONS [WAQSR Ch 6, Sec 2 Permits OP-191 and MD-166]

(a) NO_X emissions from the urea auxiliary boiler (P450) shall not exceed 6.1 lb/hr.

(b) Ammonia emissions from the Hotwell scrubber (P342) shall not exceed 0.015 lb/hr and 0.075 TPY.

(F18) UREA PLANT PRODUCTION [WAQSR Ch 6, Sec 2 Permit MD-166]

The production of urea prills from the evaporator and tower (P382 and P391) shall not exceed 6.9 tons per hour.

EMULSION PLANT REQUIREMENTS

(F19) EMULSION PLANT OPERATION & VISIBLE EMISSIONS [WAQSR Ch 6, Sec 2 Waiver wv-12045]

(a) The permittee shall operate and maintain the AkzoNobel horizontal expander and associated handling and storage equipment in accordance with the manufacturer's or supplier's recommendations such that the equipment vent filters remain effective as viable emission control devices.

(b) The process equipment shall be operated and maintained so the exhaust stack exhibits no visible emissions as determined by Method 22 of Appendix A, 40 CFR part 60.

Testing Requirements

(F20) EMISSIONS TESTING [W.S. 35-11-110]

(a) The Division reserves the right to require additional testing as provided under condition G1 of this permit. Should testing be required, test methods found at 40 CFR 60, Appendix A, shall be used as follows:

(i) For visible emissions, Method 9 shall be used.

(ii) For particulate emissions, Methods 1-4 and 5 shall be used.

(iii) For SO_2 emissions, Methods 1-4 and 6 or 6C shall be used.

(iv) For NO_X emissions from the #3 and #4 nitric acid plants, testing shall follow the requirements of 40 CFR 60, Subpart G §60.74. For other NO_X emissions sources, Methods 1-4 and 7 or 7E shall be used.

(v) For CO emissions, Methods 1-4 and 10 shall be used.

(vi) For alternative test methods, or methods used for other pollutants, the approval of the Administrator must be obtained prior to using the test method to measure emissions.

(b) Unless otherwise specified, testing shall be conducted in accordance with WAQSR Ch 5, Sec 2(h).

Monitoring Requirements

AMMONIA PLANT MONITORING

(F21) VISIBLE EMISSIONS MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)]

For visible emissions, the permittee shall conduct monitoring as follows to assess compliance with condition F1.

(a) The permittee shall monitor the type of fuel used to ensure natural gas is the sole fuel source for the Foster Wheeler reformer furnace (P005), the compressor engines (P042, P043, P045, P046, and P047), the #1 and #2 auxiliary boilers (P444 and P445), the start-up heater, and the Ford LSG-875IT emergency engine.

(b) The permittee shall conduct observations of visible emissions from the diesel-fired emergency engines (John Deere 4239, Caterpillar 3306B, and Caterpillar 3406BDIT) during periodic availability assurance tests, at least semi-annually, to assess compliance with the opacity limit and identify maintenance needs.

(c) For visible emissions from the ammonia flares (S-101 and S-102), the permittee shall monitor and note any date, time and duration when either flare exhibits visible emissions for more than 5 minutes.

(F22) AMMONIA FLARE MONITORING
[WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 6, Sec 2 Waivers wv-11691 and wv-13114]

(a) The presence of a pilot flame on the emergency ammonia flare (S-102) shall be monitored using a thermocouple and continuous recording device or any equivalent device to detect the presence of a flame, as required by condition F2(a). The permittee shall note the dates and duration of any time during active operations when the pilot flame is not present.

(b) The permittee shall monitor for visible emission as indicated by condition F21(c).

(F23) ENGINE MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 6, Sec 2 Permit MD-1502A]

(a) For the north and south Cooper Bessemer (P042 and P043), Creole White Superior (P045), and east and west Cummins engines (P046 and P047) compressor engines, the permittee shall conduct NO_X and CO emissions monitoring as follows to assess compliance with the limits in condition F3.

(i) The permittee shall measure NO_X and CO emissions at least semi-annually from the north and south Cooper engines (P042 and P043).

(ii) The permittee shall measure NO_X and CO emissions from the engine and east and west Cummins, and the White Superior Creole (P045, P046 and P047) engines at least annually.

(iii) Emissions shall be measured using the Division's portable analyzer monitoring protocol, or the EPA reference methods described in condition F20. The monitoring protocol can be downloaded at *http://deq.state.wy.us/aqd/operating.asp* or is available from the Division upon request.

(iv) Notification of the test date shall be provided to the Division 15 days prior to testing. Results of the tests shall be submitted to the Division within 45 days of completing the tests.

(b) The permittee shall monitor the calendar year operating hours of the Caterpillar 3306B and Ford LSG emergency engines to verify compliance with condition F3(d) and (e).

(F24) CATALYST MONITORING AND MAINTENANCE [WAQSR Ch 6, Sec 2 Permit MD-1502A]
The permittee shall follow the monitoring and maintenance requirements as follows for the east and west Cummins engines (P046 and P047) equipped with NSCR catalysts:

(a) Operate and maintain a thermocouple to measure the temperature at the inlet of the catalyst.

(i) The inlet temperature shall be monitored and recorded at least monthly. If the temperature is outside the range of 750°F to 1250°F, corrective action shall be taken.

(b) Operate and maintain a device to measure the pressure drop across the catalyst.

(i) The pressure drop across the catalyst shall be monitored and recorded at least monthly. If the pressure changes by more than two inches of water at 100% load, plus or minus 10%, from the pressure drop as determined below, corrective action shall be taken.

(ii) Reference pressure drop for each engine shall be established during the initial performance test. When a catalyst is replaced, the reference pressure drop shall be re-established for that engine during the first test required, in compliance with condition F23, which occurs after the catalyst replacement.

(c) Compliance with 40 CFR 63, Subpart ZZZZ §§63.6605 and 63.6640 can be used in lieu of the monitoring and maintenance requirements under paragraphs (a) and (b) of this condition.

(F25) FOSTER WHEELER REFORMER FURNACE, AND #1 AND #2 AUXILIARY BOILER MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)]

(a) For the Foster Wheeler reformer furnace (P005) the permittee shall conduct monitoring as follows to assess compliance with the limits of condition F4(a)(i) and (ii):

(i) The permittee shall monitor the firing rate on a daily basis.

(ii) The permittee shall measure NO_X emissions at least annually.

(b) For #1 auxiliary boiler (P445), the permittee shall conduct monitoring as follows for comparison with the limits indicated in condition F4(b)(i) and (ii):

(i) The permittee shall measure NO_X at least once every five years.

(ii) The permittee shall monitor the operating hours on a weekly basis.

(c) For the #2 auxiliary boiler (P444), the permittee shall measure NO_X emissions at least annually for comparison with the emission limits specified in condition F4(c).

(d) NO_X emissions shall be measured using the Division's portable analyzer monitoring protocol, or the EPA reference methods described in condition F20. The monitoring protocol is available from the Division upon request or can be downloaded at *http://deq.state.wy.us/aqd/operating.asp.*

(F26) Reserved

NITRIC ACID PLANT MONITORING

(F27) VISIBLE EMISSIONS MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 6, Sec 2 Permit MD-1502A]
The permittee shall conduct, at minimum, weekly visual observations of the #1, #2, #3 and #4 nitric acid plants (P143, P169, P189 and N005) during active operation, to determine the presence of any visible emissions:

(a) The visual observations shall be conducted by a person who is educated on the general procedures for determining the presence of visible emissions but not necessarily certified to perform Method 9 observations.

(b) Observation of visible emissions shall prompt immediate inspection and, if necessary, corrective action.

(F28) #1 AND #2 NITRIC ACID PLANT NO_X EMISSIONS MONITORING
[WAQSR Ch 6, Sec 3(h)(i)(C)(I) and Ch 7, Sec 3(c)(ii)]
The permittee shall adhere to the compliance assurance monitoring (CAM) plan, attached in Appendix A of this permit, for NO_X emissions from the #1 and #2 nitric acid plants (P143 and P169), and shall conduct monitoring as follows during active operation of each emission source:

(a) Each day either the #1 or #2 nitric acid plant is operated, the permittee shall monitor continuously the NSCR catalyst inlet temperature and temperature differential across the catalyst for that plant.

(i) The permittee shall operate the plants at or above the minimum catalyst inlet temperature and the catalyst temperature differential specified in the approved CAM plan.

(ii) An excursion is defined as operation outside of the temperature ranges established in the approved CAM plan. An excursion shall trigger immediate corrective action.

(iii) The permittee shall follow all other applicable requirements under conditions CAM-1 through CAM-4 of this permit.

(b) The permittee shall measure NO_X emissions from the #1 and #2 nitric acid plants at least annually for comparison with the lb/hr and lb/ton emission limits specified in condition F8(a) and to further refine the relationship between emissions, the catalyst inlet temperature, and the temperature differential across the catalyst.

(i) The permittee shall measure the CAM indicators during the tests. The permittee shall evaluate the data from the tests, together with data from previous testing, to determine if the indicator ranges in the CAM plan should be revised.

(ii) Emissions shall be measured using the Division's portable analyzer monitoring protocol, or the EPA reference methods described in condition F20. The monitoring protocol is available from the Division upon request, or can be downloaded at *http://deq.state.wy.us/aqd/operating.asp*.

(F29) #3 AND #4 NITRIC ACID PLANT NO_X EMISSION MONITORING
[WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 6, Sec 2 Permit OP-191]
The permittee shall maintain and operate continuous monitoring systems for the measurement of NO_X emissions at the #3 and #4 nitric acid plants (P189 and N005), in accordance with §60.73 and WAQSR Ch 5, Sec 2, to assess compliance with the lb/hr and lb/ton emissions limits in condition F8(b) and (c).

(F30) NITRIC ACID PLANT PRODUCTION & SHUTDOWN MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)]

(a) The permittee shall measure the daily production rate of nitric acid and operating hours from the #1, #2, #3 and #4 nitric acid plants (P143, P169, P189, N005) to assess compliance with condition F9. For the #3 and #4 nitric acid plants, the permittee shall also meet the monitoring requirements of §60.73.

(b) The permittee shall monitor for each time an acid plant is shutdown, the cause of the shutdown, and when the acid plant was restarted, to assess compliance with condition F9(d).

HIDAN PLANT MONITORING

(F31) AMMONIUM NITRATE SOLUTION PRODUCTION MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)]
The permittee shall track the daily production of ammonium nitrate in the HIDAN plant to assess compliance with the limit in condition F11.

LODAN PLANT MONITORING

(F32) VISIBLE EMISSIONS MONITORING
[WAQSR Ch 6, Sec 3(h)(i)(C)(I) and Ch 6, Sec 2 Permits OP-191 and MD-1502A]

(a) The permittee shall maintain and operate an opacity monitor at the exhaust vent of the prill tower (P268) in accordance with WAQSR Ch 5, Sec 2(j).

(b) For visible emissions from the LODAN wash tower (P287) and the #2 LODAN neutralizer and evaporator (N001), the permittee shall assess compliance with condition F12(a) by conducting, at minimum, weekly visual observations during operation of the units.

(i) The opacity readings shall be conducted by a qualified observer certified in accordance with Section 3.1 of Method 9 and shall follow the requirements and procedures of Method 9.

(ii) Observation of excess emissions shall prompt inspection and corrective actions as needed.

(c) Periodic monitoring for visible emissions from the Ford LSG shall consist of monitoring the type of fuel according to condition F21(a). For the Caterpillar 3406 BDIT, the permittee shall monitor visible emissions as indicated by condition F21(b).

(F33) LODAN PLANT PARTICULATE EMISSIONS MONITORING
[WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 6, Sec 2 Permit MD-1502A; Ch 7, Sec 3(c)(ii)]
The permittee shall adhere to the compliance assurance monitoring (CAM) plans, attached in Appendix A of this permit, for particulate emissions from the #1 LODAN prill tower (P268) and wash tower (P287), and the #2 LODAN neutralizer and evaporator (N001), and shall conduct monitoring as follows during active operation of each emission source:

(a) Each day the LODAN prill tower or LODAN wash tower are operated, the permittee shall monitor continuously the respective motor amperage of pumps P-479 A/B (prill tower) and P-481 A/B (wash tower), and P-30511 (neutralizer and evaporator).

(i) An excursion, which is considered operation below the amperage established for each pump in the approved CAM plan, shall trigger immediate corrective action.

(ii) The permittee shall follow all other applicable requirements under conditions CAM-1 through CAM-5 of this permit.

(b) The permittee shall measure particulate emissions from each source (P268, P287 and N001) at least annually for comparison with the emission limits specified in condition F13 and to further refine the relationship between particulate emissions and motor amperage.

(i) The permittee shall measure the CAM indicators during the tests. The permittee shall evaluate the data from the tests, together with data from previous testing, to determine if the indicator ranges in the CAM plan should be revised.

(ii) Testing for particulate emissions shall be conducted in accordance with EPA reference methods.

(iii) A test protocol shall be submitted to this office for review and approval prior to testing. Notification of the test date shall be provided to the Division 15 days prior to testing. Results of the tests shall be submitted to this Division within 45 days of completing the tests.

(F34) LODAN ENGINE MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)]
The permittee shall monitor the operating hours of the Ford LSG emergency engine as indicated in condition F23(b).

UREA PLANT MONITORING

(F35) VISIBLE EMISSIONS MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)]

(a) The permittee shall conduct, at minimum, weekly visual observations of the urea evaporator (P382) and a representative stack on the urea prill tower (P391) to assess compliance with condition F15.

(i) The opacity readings shall be conducted by a qualified observer certified in accordance with Section 3.1 of Method 9 and shall follow the requirements and procedures of Method 9.

(ii) Observation of excess emissions shall prompt inspection and corrective actions as needed.

(b) For visible emissions from the urea auxiliary boiler (P450), the permittee shall monitor the type of fuel used to ensure natural gas is the sole fuel source for this unit.

(F36) UREA PLANT PARTICULATE EMISSIONS MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)]

(a) The permittee shall test the urea evaporator (P382) at least once every five years to determine compliance with the particulate emission limit in condition F16(a).

(b) The permittee shall test the urea prill tower (P391) at least once every five years to determine compliance with the particulate emission limit in condition F16(b).

(c) Emissions shall be tested using the EPA reference methods described in condition F20.

(F37) NO_X EMISSIONS MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)]

The permittee shall measure NO_X emissions from the urea auxiliary boiler (P450) at least once every two years to assess compliance with the limit in condition F17(a). If emission results from biennial performance tests are less than or equal to 75 percent of the emission limit, the frequency of subsequent performance tests may be reduced to once every four years. If the results of any subsequent performance test exceed 75 percent of the emission limit, biennial testing shall resume.

(F38) UREA PLANT PRODUCTION MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I)]

The permittee shall track the hourly urea prill production to assess compliance with the limit in condition F18.

EMULSION PLANT MONITORING

(F39) EMULSION PLANT MONITORING [WAQSR Ch 6, Sec 3(h)(i)(C)(I); Ch 6, Sec 2 Waiver wv-12045]

The permittee shall conduct, at minimum, weekly Method 22-like visual observations of the exhaust stack to determine the presence of visible emissions when the horizontal expander and associated handling and storage equipment are in operation, to assess compliance with condition F19.

(a) Observation of visible emissions from the exhaust stack shall prompt immediate inspection and, if necessary, corrective action.

Recordkeeping Requirements

(F40) TESTING AND MONITORING RECORDS [WAQSR Ch 6, Sec 3(h)(i)(C)(II); Ch 6, Sec 2 Permits OP-191, MD-1502A and Waivers May 24, 1993, wv-11691, wv-12045 and wv-13115]

(a) For any testing or monitoring required under conditions F20, F21(b), F23(a), F25(a)(ii), F25(b)(i), F25(c), F27, F28(b), F33(b), F36, F37 and F39, other than Method 9 observations, the permittee shall record, as applicable, the following:

(i) The date, place, and time of sampling, measurements or observations;

(ii) The date(s) any analyses were performed;

(iii) The company, entity or person that performed the analyses or observations;

(iv) The analytical or observational techniques or methods used;

(v) The results of such analyses or observations;

(vi) The operating conditions as they existed at the time of sampling or measurement;

(vii) Any maintenance or corrective actions taken; and

(viii) In addition to the information listed above:

(A) For condition F28(b), the catalyst inlet temperature, the temperature differential across the catalyst, and the evaluation of CAM indicator ranges.

(B) For condition F33(b), the motor amperage of the pumps, and the evaluation of CAM indicator ranges.

(b) For any visible emissions monitoring required under conditions F20(a)(i), F32(b) and F35(a), the permittee shall take field records in accordance with Section 2.2 of Method 9 and record any corrective actions taken upon detecting noncompliance with opacity limitations.

(c) For the flare monitoring required by condition F21(c), the permittee shall record the date and duration of time when either flare exhibits visible emissions for more than 5 minutes.

(d) For the monitoring required by condition F22(a), the permittee shall use a continuous recording device to detect the presence of a flame, and shall record the date and duration of each time during active operations when the pilot flame is not present on flare S-102.

(e) For the monitoring required by condition F23(b), the permittee shall record the calendar year operating hours for the Caterpillar 3306B and Ford LSG engines.

(f) For the catalyst monitoring required under condition F24, the permittee shall record the catalyst inlet temperature, pressure drop, any maintenance and/or corrective action triggered, and the reference pressure drop, for each engine at the time of the monitoring. The permittee shall also record the dates of catalyst replacement for each engine.

(g) For the monitoring required by condition F25(a)(i), the permittee shall record the firing rate of the Foster Wheeler reformer furnace (P005) daily.

(h) For the monitoring required by condition F25(b)(ii), the permittee shall record the operating hours of the #1 auxiliary boiler (P445) weekly.

(i) For the NO_X emissions monitoring required by condition F29 for acid plants #3 and #4, recordkeeping shall comply with §60.73, Ch 5, Sec 2, and 40 CFR 60 Subparts A and G, and shall address compliance with both the lb/hr and lb/ton limits.

(j) For the monitoring required by condition F30(a), the permittee shall record the rate of nitric acid production and hours of operation, daily, for each nitric acid plant. For condition F30(b), the permittee shall record each time an acid plant is shutdown, the cause, and when the acid plant was restarted.

(k) For the monitoring required by condition F31, the permittee shall record the daily ammonium nitrate production.

(l) For the monitoring required by condition F38, the permittee shall record the hourly urea prill production.

(m) For condition F2(b), the permittee shall record the date of completion of the project under wv-13115.

(n) The permittee shall retain the records required by this condition for a period of at least two years on-site at the facility, and at least an additional three years at an accessible off-site location, from the date the information is generated.

(F41) CONTINUOUS OPACITY MONITOR RECORDS [WAQSR Ch 5, Sec 2(g)(ii) and (g)(v)]

(a) Recordkeeping for the continuous opacity monitoring system on the LODAN prill tower (P268) shall comply with the requirements of WAQSR Ch 5, Sec 2(g).

(i) The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the LODAN Prill Tower; any malfunction of the air pollution control equipment; or any periods during which the continuous monitoring system or monitoring device is inoperative.

(ii) The permittee shall maintain records of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required, recorded in a permanent form suitable for inspection.

(b) The permittee shall retain the records required by this condition for a period of at least two years on-site at the facility, and at least an additional three years at an accessible off-site location, from the date the information is generated.

(F42) CAM RECORDS [WAQSR Ch 6, Sec 3(h)(i)(C)(II) & Ch 7, Sec 3(i)(ii)]

For the CAM required under conditions F28 and F33, the permittee shall maintain records as described in the CAM plans attached as Appendix A, including records of the following:

(a) The date, time, and duration of any excursions as well as the CAM indicator value(s) during each excursion, as monitored under conditions F28(a) and F33(a).

(b) Test results as described under condition F40(a) for the testing and CAM evaluation required by conditions F28(b) and F33(b).

(c) Monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to WAQSR Ch 7, Sec 3(h), any activities undertaken to implement a Quality Improvement Plan (QIP), and other supporting information required to be maintained under WAQSR Ch 7, Sec 3.

(d) The permittee shall retain the records required by this condition for a period of at least two years on-site at the facility, and at least an additional three years at an accessible off-site location, from the date the information is generated.

Reporting Requirements

(F43) NOTIFICATIONS AND TEST REPORTS
[WAQSR Ch 6, Sec 3(h)(i)(C)(III); Ch 6, Sec 2 Permits/Waivers MD-1502A, wv-11691 and wv-13115]

(a) For the testing required by conditions F23(a) and F33(b):
  (i) The permittee shall provide the Division notification of the test date 15 days prior to testing.
  (ii) The permittee shall report the results of the tests within 45 days of conducting the tests.
    (A) For the testing required by condition F33(b), the permittee shall also submit the CAM evaluation required by that condition. If the evaluation indicates the CAM range needs to be revised, the permittee shall submit a revised CAM plan to the Division, along with a request to administratively amend the CAM plan within 60 days of conducting the test.
  (iii) The reports shall include the information specified under condition F40(a), reference this permit condition (F43), and be submitted to the Division in accordance with condition G4.

(b) For any testing required under conditions F20, F25, F28(b), F36, and F37:
  (i) The permittee shall report the results of the tests within 45 days of conducting the tests.
  (ii) For the testing required by conditions F28(b) , the permittee shall also submit the CAM evaluation required by those conditions. If the evaluation indicates the CAM range needs to be revised, the permittee shall submit a revised CAM plan to the Division, along with a request to administratively amend the CAM plan within 60 days of conducting the test.
  (iii) The reports shall include the information specified under condition F40(a), reference this permit condition (F43), and be submitted to the Division in accordance with condition G4.

(c) For condition F6, notification shall be submitted to the Division within 15 days of:
  (i) Installation of the ammonia storage tank (ST-103) and emergency ammonia flare (S-102).
  (ii) Resetting the pressure relief valves PSV-123A and PSV-123B and the installation of the block valve to emergency ammonia flare S-102.
  (iii) Completion of the project under wv-13115.

(d) The permittee shall notify the Division in writing (by fax or letter) each time an acid plant is shutdown, the cause of the shutdown, and when the acid plant was restarted, as indicated by condition F9(d).

(F44) SEMIANNUAL MONITORING REPORTS [WAQSR Ch 7, Sec 3(i); Ch 6, Sec 3(h)(i)(C)(III)]

(a) The following shall be reported to the Division by January 31 and July 31 each year:
  (i) Documentation that all units are firing natural gas as specified in conditions F21(a) and F35(b).
  (ii) The results of visible emissions monitoring required under conditions F21(b) and (c), F27 and F39, which shall include:
    (A) Monitoring during which excess emissions are observed under F21(b) or (c), and a brief description of any corrective actions taken.
    (B) Monitoring during which visible emissions are observed under conditions F27 and F39, and a brief description of any corrective actions taken.
    (C) If visible emissions are not exceeded during the reporting period, this shall be stated.
  (iii) The results of the visible emissions monitoring required under conditions F32(b) and F35(a), including, as applicable, each opacity measurement and any corrective actions taken upon detecting noncompliance with opacity limitations.
  (iv) The number, duration, and cause of any excursions from the temperature and pressure drop ranges specified in condition F24 for the east and west Cummins engines (P046 and P047). The report shall include a summary of any maintenance and/or corrective actions taken; if no excursions occurred during the reporting period, this shall be stated in the report.
  (v) The results of CAM required under conditions F28(a) and F33(a) including the following:
    (A) Summary information on the number, duration, and cause of excursions, as applicable, and the corrective actions taken;
    (B) A description of the action taken to implement a QIP (if required) during the reporting period as specified in Chapter 7, Section 3 (h). Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has reduced the likelihood of similar excursions.
  (vi) The date, time and duration of any event:
    (A) When the flame was not present on the emergency ammonia flare (S-102) during active operations.

(B) When the reformer furnace (P005) firing rate monitored under condition F25(a) exceeded the limit in condition F4(a).

(C) When the nitric acid production rate monitored under condition F30 exceeded the limit in condition F9.

(D) When the neutralizer ammonium nitrate production monitored under condition F31 exceeded the limit in condition F11(a).

(E) When the urea prill production monitored under condition F38 exceeded the limit in condition F18.

(F) If the limits in paragraph (vi) of this condition have not been exceeded during the reporting period, this shall be stated in the report.

(b) All instances of deviations from the conditions of this permit must be clearly identified in each report.

(c) The semiannual reports shall reference this permit condition (F44) and be submitted to the Division in accordance with condition G4.

(F45) MONTHLY BOILER REPORTS AND ANNUAL ENGINES OPERATING HOURS REPORTS
[WAQSR Ch 6, Sec 2 Waiver May 24, 1993]

(a) For the operating hours monitoring under condition F25(b), the permittee shall report to the Division each month the hours of operation for the #1 auxiliary boiler (P445) for the previous month, and the calendar year-to-date operating hours. The report shall reference this permit condition (F45) and be submitted to the Division in accordance with condition G4.

(b) Annually, with the emission inventory report required by condition G9, the permittee shall report the calendar year hours of operation for the Caterpillar 3306B and Ford LSG-875IT emergency engines.

(F46) EXCESS OPACITY, EMISSIONS AND MONITORING SYSTEM PERFORMANCE REPORTS
[WAQSR Ch 5, Sec 2(g)(iii) and (iv); Ch 6, Sec 2 Permit OP-191]

(a) For the NO_X monitoring required by condition F29 for the #3 and #4 nitric acid plants (P189 and N005), and the opacity monitoring required by condition F32(a) for the LODAN Prill Tower (P268), the permittee shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in paragraph (b) of this condition) and/or a summary report form (see paragraph (a)(v) of this condition) to the Administrator quarterly. All reports shall be postmarked by the 30th day following the end of each calendar quarter, and shall include the following information:

(i) The magnitude of excess emissions computed in accordance with WAQSR Chapter 5, Section 2(j)(viii), any conversion factor(s) used, the date and time of commencement and completion of each time period of excess emissions, and the process operating time during the reporting period.

(ii) Specific identification of each period of excess emissions that occurs during start-ups, shutdowns, malfunctions of the #3 or #4 nitric acid plants, or the prill tower, the nature and cause of any malfunction (if known), and the corrective action taken or preventative measures adopted.

(iii) The date and time identifying each period during which a continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

(iv) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be clearly stated in the report.

(v) One summary report form for each affected facility in a format approved by the Division.

(A) If the total duration of excess emissions for the reporting period is less than one percent of the total operating time for the reporting period and continuous monitoring system downtime for the reporting period is less than five percent of the total operating time for the reporting period, only the summary report form shall be submitted and the excess emission report described in paragraph (a) of this condition need not be submitted unless requested by the Administrator.

(B) If the total duration of excess emissions for the reporting period is one percent or greater of the total operating time for the reporting period or the total continuous monitoring system downtime for the reporting period is five percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in paragraph (a) of this condition shall both be submitted.

(b) For the purpose of reporting under this condition, excess emissions, as measured by the continuous monitors required by conditions F29 and F32(a), are defined as follows:
  (i) For the #3 nitric acid plant, any:
    (A) 1-hour block period during which the average NO_X emissions exceeds 51.0 lb/hr.
    (B) 3-hour period during which the average NO_X emissions (arithmetic average of three contiguous 1-hour periods) exceeds 2.11 lb/ton of acid produced, expressed as 100% nitric acid.
  (ii) For the #4 nitric acid plant, any:
    (A) 1-hour block period during which the average NO_X emissions exceeds 36.0 lb/hr.
    (B) 3-hour period during which the average NO_X emissions (arithmetic average of three contiguous 1-hour periods) exceeds 1.9 lb/ton of acid produced, expressed as 100% nitric acid.
  (iii) For the prill tower, any six-minute period when the average opacity of emissions exceeds 20%.

(c) Notwithstanding the frequency of reporting requirements specified in paragraph (a) of this condition, a permittee who is required to submit excess emissions and monitoring systems performance reports (and summary reports) on a quarterly (or more frequent) basis may reduce the frequency of reporting for that standard to semiannual as described in WAQSR Chapter 5, Section 2(g)(iv). Any reduction in reporting frequency requires a significant modification to this operating permit pursuant to WAQSR Chapter 6, Section 3(d)(vi)(C).

(d) The reports shall reference this permit condition (F46) and be submitted to the Division in accordance with condition G4 of this permit.

(F47) GREENHOUSE GAS REPORTS [W.S. 35-11-110]

The permittee shall submit to the Division a summary of any report(s) required to be submitted to the EPA under 40 CFR Part 98.

(a) The reports shall be submitted to the Division within 60 days of submission to EPA, in a format as specified by the Division.

(b) The reports shall be submitted in accordance with condition G4(a)(i) of this permit, to the attention of the Division's Emission Inventory Program. A copy need not be sent to the DEQ Air Quality contact.

(F48) REPORTING EXCESS EMISSIONS & DEVIATIONS FROM PERMIT REQUIREMENTS [WAQSR Ch 6, Sec 3(h)(i)(C)(III)]

(a) General reporting requirements are described under the General Conditions of this permit. The Division reserves the right to require reports as provided under condition G1 of this permit.

(b) Emissions which exceed the limits specified in this permit and which are not reported under a different condition of this permit shall be reported annually with the emission inventory unless specifically superseded by condition G17, condition G19, or other condition(s) of this permit. The probable cause of such exceedance, the duration of the exceedance, the magnitude of the exceedance, and any corrective actions or preventative measures taken shall be included in this annual report. For sources and pollutants which are not continuously monitored, if at any time emissions exceed the limits specified in this permit by 100 percent, or if a single episode of emission limit exceedance spans a period of 24 hours or more, such exceedance shall be reported to the Division within one working day of the exceedance. (Excess emissions due to an emergency shall be reported as specified in condition G17. Excess emissions due to unavoidable equipment malfunction shall be reported as specified in condition G19.)

(c) Any other deviation from the conditions of this permit shall be reported to the Division in writing within 30 days of the deviation or discovery of the deviation.

Accidental Release Prevention Requirements

(F49) ACCIDENTAL RELEASE PREVENTION REQUIREMENTS [40 CFR Part 68]

(a) The permittee shall meet all requirements of 40 CFR Part 68 as they apply to the facility.

(b) The permittee shall submit, as part of the annual compliance certification submitted under condition C1 of this permit, a certification statement concerning the facility's compliance with all requirements of 40 CFR Part 68, including the registration and submission of a Risk Management Plan.

WAQSR CHAPTER 5, SECTION 2 NEW SOURCE PERFORMANCE STANDARDS (NSPS) AND 40 CFR 60

SUBPART G REQUIREMENTS FOR NITRIC ACID PLANTS

40 CFR 60 SUBPART G REQUIREMENTS [40 CFR 60 Subparts A and G; and WAQSR Ch 5, Sec 2]

The permittee shall meet all applicable requirements of 40 CFR 60 Subparts A and G and WAQSR Ch 5, Sec 2 as they apply each nitric acid production unit that commences construction or modification after August 17, 1971, including the #3 and #4 nitric acid plants (P189 and N005).

SUBPART JJJJ REQUIREMENTS FOR STATIONARY SPARK IGNITION INTERNAL COMBUSTION ENGINES

SUBPART JJJJ [40 CFR Part 60 - Subparts A and JJJJ; and WAQSR Ch 5, Sec 2]

As applicable, the permittee shall meet all requirements of 40 CFR 60 Subparts A and JJJJ, and WAQSR Ch 5, Sec 2, as they apply to affected stationary spark ignition (SI) internal combustion engines (ICE). As required by condition F3(d), if an engine is replaced or reconstructed, subpart applicability will need to be reevaluated and a statement regarding applicability submitted to the Division.) For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator. An affected source is defined at §60.4230.

The subparts are available at http://www.gpoaccess.gov/cfr/retrieve.html, or from the Division upon request.

WAQSR CHAPTER 5, SECTION 3 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS) AND 40 CFR 63

SUBPART ZZZZ REQUIREMENTS FOR STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES

STATIONARY RICE (Reciprocating Internal Combustion Engine) REQUIREMENTS

[40 CFR 63 Subparts A and ZZZZ; and WAQSR Ch 5, Sec 3]

The permittee shall meet all applicable requirements of 40 CFR 63 Subparts A and Subpart ZZZZ and WAQSR Ch 5, Sec 3, as they apply to each affected source as indicated in §63.6590(a). An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand. (As required by condition F3(d), if an engine is replaced or reconstructed, subpart applicability will need to be re-evaluated and a statement regarding applicability submitted to the Division.) This facility is currently identified as an area source of HAP emissions. Affected sources at this facility include the north and south Cooper Bessemer (P042 and P043), Creole White Superior engine (P045), east and west Cummins (P046 and P047), John Deere 4239 TF, Caterpillar 3306B, Ford LSG, and Caterpillar 3406BDIT engines.

The subpart is available at http://www.gpoaccess.gov/cfr/retrieve.html, or from the Division upon request.

WAQSR CHAPTER 7, SECTION 3
COMPLIANCE ASSURANCE MONITORING (CAM) REQUIREMENTS

WAQSR Ch 7, Sec 3 is available at http://deq.state.wy.us/aqd/standards.asp, or from the Division upon request.

(CAM-1) COMPLIANCE ASSURANCE MONITORING REQUIREMENTS [WAQSR Ch 7, Sec 3(b) and (c)]

The permittee shall follow the CAM plan attached as Appendix A of this permit and meet all CAM requirements of WAQSR Ch 7, Sec 3 as they apply to the #1 and #2 nitric acid plants, and the LODAN prill tower, wash tower, and neturalzier/evaporator as identified in conditions F28 and F33. Compliance with the source specific monitoring, recordkeeping, and reporting requirements of this permit meets the monitoring, recordkeeping, and reporting requirements of WAQSR Ch 7, Sec 3, except for additional requirements specified under conditions CAM-2 through CAM-4.

(CAM-2) OPERATION OF APPROVED MONITORING [WAQSR Ch 7, Sec 3(g)]

(a) At all times, the permittee shall maintain the monitoring under this section, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

(b) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities, the permittee shall conduct all monitoring in continuous operation (or at all required intervals) at all times that the pollutant specific emissions unit is operating.

(c) Upon detecting an excursion, the permittee shall restore operation of the pollutant-specific emission unit to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices. The response shall include minimizing the period of any start-up, shutdown or malfunction and taking any corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion.

(d) If the permittee identifies a failure to achieve compliance with an emission limit for which the monitoring did not provide an indication of an excursion while providing valid data, or the results of compliance or performance testing documents a need to modify the existing indicator ranges, the permittee shall promptly notify the Division and, if necessary, submit a proposed modification to this permit to address the necessary monitoring changes.

(CAM-3) QUALITY IMPROVEMENT PLAN (QIP) REQUIREMENTS [WAQSR Ch 7, Sec 3(h)]

(a) If the Division or the EPA Administrator determines, based on available information, that the permittee has used unacceptable procedures in response to an excursion or exceedance, the permittee may be required to develop and implement a Quality Improvement Plan (QIP).

(b) If required, the permittee shall maintain a written Quality Improvement Plan (QIP) and have it available for inspection.

(c) The plan shall include procedures for conducting one or more of the following:
  (i) Improved preventative maintenance practices.
  (ii) Process operation changes.
  (iii) Appropriate improvements to control methods.
  (iv) Other steps appropriate to correct control.
  (v) More frequent or improved monitoring (in conjunction with (i) - (iv) above).

(d) If a QIP is required, the permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the Division if the period for completing the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

(e) Following implementation of a QIP, upon any subsequent determination under paragraph (a) above, the Division may require the permittee to make reasonable changes to the QIP if the QIP failed to address the cause of control device problems, or failed to provide adequate procedures for correcting control device problems as expeditiously as practicable.

(f) Implementation of a QIP shall not excuse the permittee from compliance with any existing emission limit(s) or any existing monitoring, testing, reporting, or recordkeeping requirements that may be applicable to the facility.

(CAM-4) SAVINGS PROVISIONS [WAQSR Ch 7, Sec 3(j)]

Nothing in the CAM regulations shall excuse the permittee from compliance with any existing emission limit or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may be applicable to the facility.

(CAM-5) CAM IMPLEMENTATION PLAN AND SCHEDULE [WAQSR Ch 7, Sec 3(d)(v)]

The permittee shall perform particulate matter testing on the #2 LODAN neutralizer and evaporator (N001) to verify the indicator to be used for assuring compliance with particulate matter emission limitations.

(a) Testing of N001 shall be performed as expeditiously as practicable, but no later than 120 days after permit issuance. (Testing performed after May 1, 2012 may fulfill this requirement).

(b) A test protocol shall be submitted to the Division for review and approval prior to testing, and notification of the test date shall be provided at least 15 days prior to the test date.

(c) Test results shall be submitted to the Division within 45 days after completion of the test. The permittee shall also submit for Division approval the revised CAM plan with the indicator range specified.

(d) The permittee shall begin compliance assurance monitoring for unit N001 upon development of the indicator range, as expeditiously as practicable, but no later than 180 days after permit issuance.

COMPLIANCE CERTIFICATION AND SCHEDULE

Compliance Certification [WAQSR Ch 6, Sec 3(h)(iii)(E)]

(C1) (a) The permittee shall submit by January 31 each year a certification addressing compliance with the requirements of this permit. The certification shall be submitted as a stand-alone document separate from any monitoring reports required under this permit.

(b) (i) For visible emissions from the ammonia plant, the permittee shall assess compliance with condition F1 by conducting the monitoring required by conditions F21 and F22.

(ii) For the ammonia flare, the permittee shall assess compliance with condition F2 by conducting monitoring required by conditions F21(c) and F22.

(iii) For NO_X and CO emissions from the compressor engines, the permittee shall assess compliance with condition F3(a)-(c) by conducting the monitoring required by conditions F23 and F24.

(iv) For the operating hours of the Caterpillar 3306B and Ford LSG engines, the permittee shall comply with condition F3(d) and (e) by conducting the monitoring required by condition F23(b).

(v) For firing rate and NO_X emissions from the Foster Wheeler reformer furnace, the permittee shall assess compliance with condition F4(a) by conducting monitoring required by condition F25(a).

(vi) For the operating hours of the #1 auxiliary boiler, and NO_X emissions from the #1 and #2 auxiliary boilers, the permittee shall assess compliance with conditions F4(b) and (c) by conducting the monitoring required by condition F25(b) and (c).

(vii) For installations and notifications, the permittee shall assess compliance with conditions F2(b) and F6 by verifying that notifications were submitted in accordance with condition F43(c).

(viii) For visible emissions from the nitric acid plants, the permittee shall assess compliance with condition F7 by conducting monitoring required by condition F27.

(ix) For NO_X emissions from the #1 and #2 nitric acid plants, the permittee shall assess compliance with condition F8(a) by conducting monitoring and testing required be condition F28.

(x) For NO_X emissions from the #3 and #4 nitric acid plants, the permittee shall assess compliance with condition F8(b) and (c) by conducting the monitoring required by condition F29.

(xi) For nitric acid production, the permittee shall assess compliance with condition F9(a)-(c) by conducting the monitoring required by condition F30.

(xii) For the notification required by condition F9(d), the permittee shall assess compliance by reviewing reports submitted in accordance with condition F43(d).

(xiii) For ammonium nitrate production from the HIDAN Plant, the permittee shall assess compliance with condition F11(a) by conducting the monitoring required by condition F31.

(xiv) For condition F11(b), the permittee shall verify that the neutralizer scrubber was used to reclaim ammonia contaminated condensate, and emissions were not vented to the atmosphere.

(xv) For visible emissions from the LODAN Plant sources, the permittee shall assess compliance with condition F12 by conducting monitoring required by F32.

(xvi) For particulate emissions from the LODAN Plant, the permittee shall assess compliance with condition F13 by conducting monitoring and testing required by F33.

(xvii) For visible emissions from the urea plant, the permittee shall assess compliance with condition F15 by conducting monitoring required by condition F35.

(xviii) For particulate emissions from the urea plant, the permittee shall assess compliance with condition F16 by conducting monitoring required by condition F36.

(xix) For NO_X emissions from the urea auxiliary boiler, the permittee shall assess compliance with condition F17(a) by conducting monitoring required by condition F37.

(xx) For urea prill production, the permittee shall assess compliance with condition F18 by conducting monitoring required by condition F38.

(xxi) For visible emissions from the emulsion plant, the permittee shall assess compliance with condition F19 by conducting monitoring required by condition F39.

(xxii) For greenhouse gas reporting, the permittee shall assess compliance with condition F47 by verifying that reports were submitted in accordance with condition F47(b).

(xxiii) For accidental release prevention, the permittee shall assess compliance with condition F49 by verifying that reports were submitted in accordance with condition F49(b).

(xxiv) The permittee shall assess compliance with 40 CFR Part 60 Subpart G by conducting any testing and monitoring required by §§60.73 and 60.74.

(xxv) For any engine subject to 40 CFR 60 Subpart JJJJ, the permittee shall assess compliance with Subpart JJJJ by conducting any testing and monitoring required by §§60.4237, 60.4243, and 60.4244, and by reviewing the records required by §§60.4245 and 60.4246.

(xxvi) The permittee shall assess compliance with 40 CFR Part 63 Subpart ZZZZ by conducting any testing and monitoring required by §§63.6610 through 63.6640 and by reviewing the records required by §§63.6655 and 63.6665.

(c) The compliance certification shall include:

(i) The permit condition or applicable requirement that is the basis of the certification;

(ii) The current compliance status;

(iii) Whether compliance was continuous or intermittent; and

(iv) The methods used for determining compliance.

(d) For any permit conditions or applicable requirements for which the source is not in compliance, the permittee shall submit with the compliance certification a proposed compliance plan and schedule for Division approval.

(e) The compliance certification shall be submitted to the Division in accordance with condition G4 of this permit and to the Assistant Regional Administrator, Office of Enforcement, Compliance, and Environmental Justice (8ENF-T), U.S. EPA - Region VIII, 1595 Wynkoop Street, Denver, CO 80202-1129.

(f) Determinations of compliance or violations of this permit are not restricted to the monitoring requirements listed in paragraph (b) of this condition; other credible evidence may be used.

Compliance Schedule [WAQSR Ch 6, Sec 3(h)(iii)(C) and (D)]

(C2) The permittee shall continue to comply with the applicable requirements with which the permittee has certified that it is already in compliance.

(C3) The permittee shall comply in a timely manner with applicable requirements that become effective during the term of this permit.

GENERAL PERMIT CONDITIONS

Powers of the Administrator: [W.S. 35-11-110]

(G1) (a) The Administrator may require the owner or operator of any point source to complete plans and specifications for any application for a permit required by the Wyoming Environmental Quality Act or regulations made pursuant thereto and require the submission of such reports regarding actual or potential violations of the Wyoming Environmental Quality Act or regulations thereunder.

(b) The Administrator may require the owner or operator of any point source to establish and maintain records; make reports; install, use and maintain monitoring equipment or methods; sample emissions, or provide such other information as may be reasonably required and specified.

Permit Renewal and Expiration: [WAQSR Ch 6, Sec 3(c)(i)(C), (d)(ii), (d)(iv)(B), and (h)(i)(B)] [W.S. 35-11-206(f)]

(G2) This permit is issued for a fixed term of five years. Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application is submitted at least six months prior to the date of permit expiration. If the permittee submits a timely and complete application for renewal, the permittee's failure to have an operating permit is not a violation of WAQSR Chapter 6, Section 3 until the Division takes final action on the renewal application. This protection shall cease to apply after a completeness determination if the applicant fails to submit by the deadline specified in writing by the Division any additional information identified as being needed to process the application.

Duty to Supplement: [WAQSR Ch 6, Sec 3(c)(iii)]

(G3) The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information. The permittee shall also provide additional information as necessary to address any requirements that become applicable to the facility after this permit is issued.

Submissions: [WAQSR Ch 6, Sec 3(c)(iv)] [W.S. 35-11-206(c)]

(G4) Any document submitted shall be certified as being true, accurate, and complete by a responsible official.

(a) Submissions to the Division.

(i) Any submissions to the Division including reports, certifications, and emission inventories required under this permit shall be submitted as separate, stand-alone documents and shall be sent to:

Administrator, Air Quality Division
122 West 25th Street
Cheyenne, Wyoming 82002

(ii) Unless otherwise noted elsewhere in this permit, a copy of each submission to the Administrator under paragraph (a)(i) of this condition shall be sent to the DEQ Air Quality Contact listed on page 3 of this permit.

(b) Submissions to EPA.

(i) Each certification required under condition C1 of this permit shall also be sent to:

Assistant Regional Administrator
Office of Enforcement, Compliance, and Environmental Justice (8ENF-T)
U.S. EPA - Region VIII
1595 Wynkoop Street
Denver, CO 80202-1129.

(ii) All other required submissions to EPA shall be sent to:

Office of Partnerships and Regulatory Assistance
Air and Radiation Program (8P-AR)
U.S. EPA - Region VIII
1595 Wynkoop Street
Denver, CO 80202-1129

Changes for Which No Permit Revision Is Required: [WAQSR Ch 6, Sec 3(d)(iii)]

(G5) The permittee may change operations without a permit revision provided that:

(a) The change is not a modification under any provision of title I of the Clean Air Act;

(b) The change has met the requirements of Chapter 6, Section 2 of the WAQSR and is not a modification under Chapter 5, Section 2 or Chapter 6, Section 4 of the WAQSR and the changes do not exceed the emissions allowed under the permit (whether expressed therein as a rate of emissions or in terms of total emissions); and

(c) The permittee provides EPA and the Division with written notification at least 14 days in advance of the proposed change. The permittee, EPA, and the Division shall attach such notice to their copy of the relevant permit. For each such change, the written notification required shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield, if one exists for this permit, shall not apply to any such change made.

Transfer of Ownership or Operation: [WAQSR Ch 6, Sec 3(d)(v)(A)(IV)]

(G6) A change in ownership or operational control of this facility is treated as an administrative permit amendment if no other change in this permit is necessary and provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Division.

Reopening for Cause: [WAQSR Ch 6, Sec 3(d)(vii)] [W.S. 35-11-206(f)(ii) and (iv)]

(G7) The Division will reopen and revise this permit as necessary to remedy deficiencies in the following circumstances:

(a) Additional applicable requirements under the Clean Air Act or the WAQSR that become applicable to this source if the remaining permit term is three or more years. Such reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended.

(b) Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit.

(c) The Division or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

(d) The Division or EPA determines that the permit must be revised or revoked to assure compliance with applicable requirements.

Annual Fee Payment: [WAQSR Ch 6, Sec 3(f)(i), (ii), and (vi)] [W.S. 35-11-211]

(G8) The permittee shall, as a condition of continued operations, submit an annual fee to the Division as established in Chapter 6, Section 3 (f) of the WAQSR. The Division shall give written notice of the amount of fee to be assessed and the basis for such fee assessment annually. The assessed fee is due on receipt of the notice unless the fee assessment is appealed pursuant to W.S. 35-11-211(d). If any part of the fee assessment is not appealed it shall be paid to the Division on receipt of the written notice. Any remaining fee which may be due after completion of the appeal is immediately due and payable upon issuance of the Council's decision. Failure to pay fees owed the Division is a violation of Chapter 6, Section 3 (f) and W.S. 35-11-203 and may be cause for the revocation of this permit.

Annual Emissions Inventories: [WAQSR Ch 6, Sec 3(f)(v)(G)]

(G9) The permittee shall submit an annual emission inventory for this facility to the Division for fee assessment and compliance determinations within 60 days following the end of the calendar year. The emissions inventory shall be in a format specified by the Division.

Severability Clause: [WAQSR Ch 6, Sec 3(h)(i)(E)]

(G10) The provisions of this permit are severable, and if any provision of this permit, or the application of 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.

Compliance: [WAQSR Ch 6, Sec 3(h)(i)(F)(I) and (II)] [W.S. 35-11-203(b)]

(G11) The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Air Act, Article 2 of the Wyoming Environmental Quality Act, and the WAQSR and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

Permit Actions: [WAQSR Ch 6, Sec 3(h)(i)(F)(III)] [W.S. 35-11-206(f)]

(G12) This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Property Rights: [WAQSR Ch 6, Sec 3(h)(i)(F)(IV)]

(G13) This permit does not convey any property rights of any sort, or any exclusive privilege.

Duty to Provide Information: [WAQSR Ch 6, Sec 3(h)(i)(F)(V)]

(G14) The permittee shall furnish to the Division, within a reasonable time, any information that the Division may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Division copies of records required to be kept by the permit, including information claimed and shown to be confidential under W.S. 35-11-1101 (a) of the Wyoming Environmental Quality Act. Upon request by the Division, the permittee shall also furnish confidential information directly to EPA along with a claim of confidentiality.

Emissions Trading: [WAQSR Ch 6, Sec 3(h)(i)(H)]

(G15) No permit revision is required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.

Inspection and Entry: [WAQSR Ch 6, Sec 3(h)(iii)(B)] [W.S. 35-11-206(c)]

(G16) Authorized representatives of the Division, upon presentation of credentials and other documents as may be required by law, shall be given permission to:

(a) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
(b) have access to and copy at reasonable times any records that must be kept under the conditions of this permit;
(c) inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
(d) sample or monitor any substances or parameters at any location, during operating hours, for the purpose of assuring compliance with this permit or applicable requirements.

Excess Emissions Due to an Emergency: [WAQSR Ch 6, Sec 3(l)]

(G17) The permittee may seek to establish that noncompliance with a technology-based emission limitation under this permit was due to an emergency, as defined in Ch 6, Sec 3(l)(i) of the WAQSR. To do so, the permittee shall demonstrate the affirmative defense of emergency through properly signed, contemporaneous operating logs, or other relevant evidence that:

(a) an emergency occurred and that the permittee can identify the cause(s) of the emergency;
(b) the permitted facility was, at the time, being properly operated;
(c) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards, or other requirements in this permit;

(d) The permittee submitted notice of the emergency to the Division within one working day of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

Diluting and Concealing Emissions: [WAQSR Ch 1, Sec 4]

(G18) No person shall cause or permit the installation or use of any device, contrivance, or operational schedule which, without resulting in reduction of the total amount of air contaminant released to the atmosphere, shall dilute or conceal an emission from a source. This condition shall not apply to the control of odors.

Unavoidable Equipment Malfunction: [WAQSR Ch 1, Sec 5]

(G19) (a) Any source believing that any emissions in excess of established regulation limits or standards resulted from an unavoidable equipment malfunction, shall notify the Division within 24 hours of the incident via telephone, electronic mail, fax, or other similar method. A detailed description of the circumstances of the incident as described in paragraph 5(a)(i)(A) Chapter 1, including a corrective program directed at preventing future such incidents, must be submitted within 14 days of the onset of the incident. The Administrator may extend this 14-day time period for cause.

(b) The burden of proof is on the owner or operator of the source to provide sufficient information to demonstrate that an unavoidable equipment malfunction occurred.

Fugitive Dust: [WAQSR Ch 3, Sec 2(f)]

(G20) The permittee shall minimize fugitive dust in compliance with standards in Ch 3, Sec 2(f) of WAQSR for construction/demolition activities, handling and transportation of materials, and agricultural practices.

Carbon Monoxide: [WAQSR Ch 3, Sec 5]

(G21) The emission of carbon monoxide in stack gases from any stationary source shall be limited as may be necessary to prevent ambient standards from being exceeded.

Asbestos: [WAQSR Ch 3, Sec 8]

(G22) The permittee shall comply with emission standards for asbestos during abatement, demolition, renovation, manufacturing, spraying and fabricating activities.

(a) No owner or operator shall build, erect, install, or use any article, machine, equipment, process, or method, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous dilutants to achieve compliance with a visible emissions standard, and the piecemeal carrying out of an operation to avoid coverage by a standard that applies only to operations larger than a specified size.

(b) All owners and operators conducting an asbestos abatement project, including an abatement project on a residential building, shall be responsible for complying with Federal requirements and State standards for packaging, transportation, and delivery to an approved waste disposal facility as provided in paragraph (m) of Ch 3, Sec 8.

(c) The permittee shall follow State and Federal standards for any demolition and renovation activities conducted at this facility, including:

(i) A thorough inspection of the affected facility or part of the facility where the demolition or renovation activity will occur shall be conducted to determine the presence of asbestos, including Category I and Category II non-friable asbestos containing material. The results of the inspection will determine which notification and asbestos abatement procedures are applicable to the activity.

(ii) The owner or operator shall follow the appropriate notification requirements of Ch 3, Sec 8(i)(ii).

(iii) The owner or operator shall follow the appropriate procedures for asbestos emissions control, as specified in Chapter 3, Section 8(i)(iii).

(d) No owner or operator of a facility may install or reinstall on a facility component any insulating materials that contain commercial asbestos if the materials are either molded and friable or wet-applied and friable after drying. The provisions of this paragraph do not apply to spray-applied insulating materials regulated under paragraph (j) of Ch 3, Sec 8.

(e) The permittee shall comply with all other requirements of WAQSR Ch 3, Sec 8.

Open Burning Restrictions: [WAQSR Ch 10, Sec 2]

(G23) The permittee conducting an open burn shall comply with all rules and regulations of the Wyoming Department of Environmental Quality, Division of Air Quality, and with the Wyoming Environmental Quality Act.

(a) No person shall burn prohibited materials using an open burning method, except as may be authorized by permit. ***"Prohibited materials"*** means substances including, but not limited to; natural or synthetic rubber products, including tires; waste petroleum products, such as oil or used oil filters; insulated wire; plastic products, including polyvinyl chloride ("PVC") pipe, tubing and connectors; tar, asphalt, asphalt shingles, or tar paper; railroad ties; wood, wood waste, or lumber that is painted or chemically treated; explosives or ammunition; batteries; hazardous waste products; asbestos or asbestos containing materials; or materials which cause dense smoke discharges, excluding refuse and flaring associated with oil and gas well testing, completions and well workovers.

(b) No person or organization shall conduct or cause or permit open burning for the disposal of trade wastes, for a salvage operation, for the destruction of fire hazards if so designated by a jurisdictional fire authority, or for fire fighting training, except when it can be shown by a person or organization that such open burning is absolutely necessary and in the public interest. Any person or organization intending to engage in such open burning shall file a request to do so with the Division.

Sulfur Dioxide Emission Trading and Inventory Program [WAQSR Ch 14]

(G24) Any BART (Best Available Retrofit Technology) eligible facility, or facility which has actual emissions of SO_2 greater than 100 tpy in calendar year 2000 or any subsequent year, shall comply with the applicable requirements of WAQSR Ch 14, Sections 1 through 3, with the exceptions described in sections 2(c) and 3(a).

Stratospheric Ozone Protection Requirements: [40 CFR Part 82]

(G25) The permittee shall comply with all applicable Stratospheric Ozone Protection Requirements, including but not limited to:

(a) *Standards for Appliances* [40 CFR Part 82, Subpart F]
The permittee shall comply with the standards for recycling and emission reduction pursuant to 40 CFR Part 82, Subpart F - Recycling and Emissions Reduction, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:

(i) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.

(ii) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.

(iii) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.

(iv) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like appliance" is defined at §82.152).

(v) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.166.

(vi) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.

(vii) The permittee shall comply with all other requirements of Subpart F.

(b) *Standards for Motor Vehicle Air Conditioners* [40 CFR Part 82, Subpart B]
If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant in the MVAC, the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant.

STATE ONLY PERMIT CONDITIONS

The conditions listed in this section are State only requirements and are not federally enforceable.

Ambient Standards

(S1) The permittee shall operate the emission units described in this permit such that the following ambient standards are not exceeded:

POLLUTANT	STANDARD	CONDITION	WAQSR CH. 2, SEC.
PM_{10} particulate matter	50 micrograms per cubic meter	annual arithmetic mean	2 (a)
	150 micrograms per cubic meter	24-hr average concentration with not more than one exceedance per year	
$PM_{2.5}$ particulate matter	15 micrograms per cubic meter	annual arithmetic mean	2 (b)
	35 micrograms per cubic meter	98th percentile 24-hour average concentration	
Nitrogen dioxide	100 micrograms per cubic meter	annual arithmetic mean	3
Sulfur oxides	60 micrograms per cubic meter	annual arithmetic mean	4
	260 micrograms per cubic meter	max 24-hr concentration with not more than one exceedance per year	
	1300 micrograms per cubic meter	max 3-hr concentration with not more than one exceedance per year	
Carbon monoxide	10 milligrams per cubic meter	max 8-hr concentration with not more than one exceedance per year	5
	40 milligrams per cubic meter	max 1-hr concentration with not more than one exceedance per year	
Ozone	0.08 parts per million	daily maximum 8-hour average	6
Hydrogen sulfide	70 micrograms per cubic meter	½ hour average not to be exceeded more than two times per year	7
	40 micrograms per cubic meter	½ hour average not to be exceeded more than two times in any five consecutive days	
Suspended sulfate	0.25 milligrams SO_3 per 100 square centimeters per day	maximum annual average	8
	0.50 milligrams SO_3 per 100 square centimeters per day	maximum 30-day value	
Lead and its compounds	0.15 micrograms per cubic meter	maximum arithmetic 3-month mean concentration for a 3-year period	10

Hydrogen Sulfide: [WAQSR Ch 3, Sec 7]

(S2) Any exit process gas stream containing hydrogen sulfide which is discharged to the atmosphere from any source shall be vented, incinerated, flared or otherwise disposed of in such a manner that ambient sulfur dioxide and hydrogen sulfide standards are not exceeded.

Odors: [WAQSR Ch 2, Sec 11]

(S3) (a) The ambient air standard for odors from any source shall be limited to an odor emission at the property line which is undetectable at seven dilutions with odor free air as determined by a scentometer as manufactured by the Barnebey-Cheney Company or any other instrument, device, or technique designated by the Division as producing equivalent results. The occurrence of odors shall be measured so that at least two measurements can be made within a period of one hour, these determinations being separated by at least 15 minutes.

(b) Odor producing materials shall be stored, transported, and handled in a manner that odors produced from such materials are confined and that accumulation of such materials resulting from spillage or other escape is prevented.

SUMMARY OF SOURCE EMISSION LIMITS AND REQUIREMENTS

Source ID#: **P005** Source Description: **Foster Wheeler Reformer Furnace**

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F1]	WAQSR Ch 3, Sec 2	Additional testing if required [F20]	Verification of natural gas firing [F21]	Record the results of any additional testing [F40]	Semiannual: type of fuel fired [F44] Report excess emissions and permit deviations [F48]
NO_X	0.16 lb/MMBtu, 28.2 lb/hr. 180 MMBtu/hr firing rate. [F4]	WAQSR Ch 6, Sec 2 Waiver 6/18/1992	Additional testing if required [F20]	Annual NO_X test. Monitor firing rate. [F25]	Record test results and firing rate [F40]	45 days: report test results [F43] Semiannually report if firing rate exceeded [F44] Report excess emissions and permit deviations [F48]

Source ID#: **P042 and P043** Source Description: **Cooper Bessemer Compressor (North and South) Engines**

Pollutant	Emissions Limit / Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	40 percent opacity [F1]	WAQSR Ch 3, Sec 2	Additional testing if required [F20]	Verification of natural gas firing [F21]	Record the results of any additional testing [F40]	Semiannual: type of fuel fired [F44] Report excess emissions and permit deviations [F48]
NO_X	16.1 g/hp-hr, 170.61 lb/hr, and 747.3 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-336	Additional testing if required [F20]	Semi-annual NO_X testing [F23]	Record test results [F40]	45 days: report test results [F43] Report excess emissions and permit deviations [F48]
CO	1.3 g/hp-hr, 13.78 lb/hr, 60.3 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-336	Additional testing if required [F20]	Semi-annual CO testing [F23]	Record test results [F40]	45 days: report test results [F43] Report excess emissions and permit deviations [F48]
NO_X, CO, and VOC	WAQSR Ch 5, Sec 2; 40 CFR 60 Subparts A and JJJJ					
HAPs	WAQSR Ch 5, Sec 3; 40 CFR 63 Subparts A and ZZZZ					

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: **P045** Source Description: **White Superior Compressor (Creole) Engine**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F1]	WAQSR Ch 3, Sec 2	Additional testing if required [F20]	Verification of natural gas firing [F21]	Record the results of any additional testing [F40]	Semiannual: type of fuel fired [F44] Report excess emissions and permit deviations [F48]
NO_X	2.0 g/hp-hr, 2.64 lb/hr, and 11.6 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-336	Additional testing if required [F20]	Annual NO_X testing [F23]	Record test results [F40]	45 days: report test results [F43] Report excess emissions and permit deviations [F48]
CO	2.0 g/hp-hr, 2.64 lb/hr, and 11.6 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-336	Additional testing if required [F20]	Annual CO testing [F23]	Record test results [F40]	45 days: report test results [F43] Report excess emissions and permit deviations [F48]
NO_X, CO, and VOC	WAQSR Ch 5, Sec 2; 40 CFR 60 Subparts A and JJJJ					
HAPs	WAQSR Ch 5, Sec 3; 40 CFR 63 Subparts A and ZZZZ					

Source ID#: **P046 and P047** Source Description: **East and West Cummins (East and West) Engines**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F1]	WAQSR Ch 3, Sec 2	Additional testing if required [F20]	Verification of natural gas firing [F21]	Record the results of any additional testing [F40]	Semiannual: type of fuel fired [F44] Report excess emissions and permit deviations [F48]
NO_X	1.0 g/hp-hr, 0.8 lb/hr, and 3.7 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-1502A	Additional testing if required [F20]	Annual NO_X testing [F23] Catalyst monitoring [F24]	Record test and monitoring results [F40]	45 days: report test results [F43] Semiannual: catalyst monitoring results [F44] Report excess emissions and permit deviations [F48]
CO	1.0 g/hp-hr, 0.8 lb/hr, and 3.7 TPY [F3]	WAQSR Ch 6, Sec 2 Permit MD-1502A	Additional testing if required [F20]	Annual CO testing [F23] Catalyst monitoring [F24]	Record test and monitoring results [F40]	45 days: report test results [F43] Semiannual: catalyst monitoring results [F44] Report excess emissions and permit deviations [F48]
NO_X, CO, and VOC	WAQSR Ch 5, Sec 2; 40 CFR 60 Subparts A and JJJJ					
HAPs	WAQSR Ch 5, Sec 3; 40 CFR 63 Subparts A and ZZZZ					

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source Description: **John Deere 4239 Diesel-Fired Emergency Generator Engine**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	30 percent opacity [F1]	WAQSR Ch 3, Sec 2	Additional testing if required [F20]	Monitor semiannually during availability checks [F21]	Record monitoring results [F40]	Semiannual: monitoring results [F44] Report excess emissions and permit deviations [F48]
NO_X, CO, and VOC	WAQSR Ch 5, Sec 2; 40 CFR 60 Subparts A and JJJJ					
HAPs	WAQSR Ch 5, Sec 3; 40 CFR 63 Subparts A and ZZZZ					

Source Description: **Caterpillar 3306B Diesel-Fired Emergency Fire Water Pump Engine**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	30 percent opacity [F1] Operating hours limit [F3]	WAQSR Ch 3, Sec 2; Ch 6, Sec 2 Waiver AP-WV9	Additional testing if required [F20]	Monitor semiannually during availability checks. [F21] Monitor operating hours [F23]	Record monitoring results and operating hours [F40]	Semiannual: visible monitoring results [F44] Annual: operating hours [F45] Report excess emissions and permit deviations [F48]
NO_X, CO, and VOC	WAQSR Ch 5, Sec 2; 40 CFR 60 Subparts A and JJJJ					
HAPs	WAQSR Ch 5, Sec 3; 40 CFR 63 Subparts A and ZZZZ					

Source ID#: **None** Source Description: **Start-Up Heater**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	40 percent opacity [F1]	WAQSR Ch 3, Sec 2	Additional testing if required [F20]	Verification of natural gas firing [F21]	Record the results of any additional testing [F40]	Semiannual: type of fuel fired [F44] Report excess emissions and permit deviations [F48]
NO_X	0.23 lb/MMBtu [F4]	WAQSR Ch 3, Sec 3	Additional testing if required [F20]	None	Record the results of any additional testing [F40]	Report excess emissions and permit deviations [F48]

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: **P445** Source Description: **#1 Auxiliary Boiler**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F1]	WAQSR Ch 3, Sec 2	Additional testing if required [F20]	Verification of natural gas firing [F21]	Record the results of any additional testing [F40]	Semiannual: type of fuel fired [F44] Report excess emissions and permit deviations [F48]
NO_X	0.20 lb/MMBtu, 10.4 lb/hr, 10.4 TPY. 2000 hr/yr operating limit. [F4]	WAQSR Ch 6, Sec 2 Waiver 5/24/1993	Additional testing if required [F20]	Test every five years. Monitor operating hours [F25]	Record test results and hours of operation [F40]	45 days: report test results [F43] Monthly: operating hours [F45] Report excess emissions and permit deviations [F48]

Source ID#: **P444** Source Description: **#2 Auxiliary Boiler**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F1]	WAQSR Ch 3, Sec 2	Additional testing if required [F20]	Verification of natural gas firing [F21]	Record the results of any additional testing [F40]	Semiannual: type of fuel fired [F44] Report excess emissions and permit deviations [F48]
NO_X	0.20 lb/MMBtu, 12.3 lb/hr [F4]	WAQSR Ch 6, Sec 2 Permit MD-70	Additional testing if required [F20]	Annual NO_X testing [F25]	Record test results [F40]	45 days: report test results [F43] Report excess emissions and permit deviations [F48]

Source ID#: **S-101** Source Description: **Ammonia Flare S-101**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F1]	WAQSR Ch 3, Sec 2	Additional testing if required [F20]	Monitor for emissions longer than 5 min [F21]	Record observations of emissions [F40]	Semiannual: report if excess emissions observed [F44] Report excess emissions and permit deviations [F48]

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: **S-102** Source Description: **Ammonia Flare S-102**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	No visible emissions except 5 min/2 hours [F1] Monitor pilot flame with thermocouple and recording device. Operate/maintain to be smokeless [F2]	WAQSR Ch 3, Sec 6; Ch 6, Sec 2 Waivers wv-11691 and wv-13115	Additional testing if required [F20]	Monitor for emissions longer than 5 min [F21] Monitor for any times flame not present [F22]	Record observations of excess emissions and any times flame not present [F40]	Semiannual: report if excess emissions observed, or operation without flame [F44] Report excess emissions and permit deviations [F48]

Source ID#: **P143 & P169** Source Description: **#1 and #2 Nitric Acid Plants**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	40 percent opacity [F7]	WAQSR Ch 3, Sec 2	Additional testing if required [F20]	Weekly observations [F27]	Record the results of any additional testing [F40]	Semiannual: report monitoring results [F44] Report excess emissions and permit deviations [F48]
NO_X	1.15 lb of NO_2 per ton of acid produced, 6.0 lb/hr from each plant. [F8] 125 TPD of nitric acid from each plant. Shutdown notifications. [F9]	WAQSR Ch 6, Sec 2 Permit MD-336	Additional testing if required [F20]	Compliance assurance monitoring (CAM) and annual NO_X testing [F28] Monitor nitric acid production [F30]	Record test results and CAM evaluation, any CAM excursions, Method 9 monitoring results, and production records [F40]	45 days: report NO_X test results. Shutdown notification [F43] Semiannual: report CAM results [F44] Semiannual: report nitric acid production exceedances [F44] Report excess emissions and permit deviations [F48]

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: **P189 & N005** Source Description: **#3 and #4 Nitric Acid Plant**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	10 percent opacity [F7]	WAQSR Ch 6, Sec 2 Permit MD-1502A and Ch 5, Sec 2; 40 CFR 60 Subpart G	Additional testing if required [F20]	Weekly observations [F27]	Record the results of any additional testing [F40]	Semiannual: report monitoring results [F44] Report excess emissions and permit deviations [F48]
NO_X	#3: 2.11 lb/ton of acid produced as 100% nitric acid, 51.0 lb/hr. [F8] Production 580 TPD as 100% nitric acid. Shutdown notifications. [F9] #4: 1.9 lb/ton of acid produced as 100% nitric acid, 36.0 lb/hr. [F8] Production 455 TPD as 100% nitric acid. Shutdown notifications. [F9]	WAQSR Ch 6, Sec 2 Permits/Waivers OP-191, MD-1502A, 6/3/1992, and 9/1/1999; and Ch 5, Sec 2; 40 CFR 60 Subpart G	Additional testing if required [F20]	Continuous emissions monitoring (CEM) for NO_X [F29] Monitor nitric acid production [F30]	Continuous emissions monitoring records [F40] Nitric acid production records [F40]	Shutdown notification [F43] Semiannual: report nitric acid production exceedances, and excess NO_X emissions [F44] Quarterly: report COM exceedances [F46] Report excess emissions and permit deviations [F48]
NO_X	WAQSR Ch 5, Sec 2; 40 CFR 60 Subparts A and G					

Source Description: **HIDAN Neutralizer**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	40 percent opacity [F10]	WAQSR Ch 3, Sec 2	Additional testing if required [F20]	None	Record the results of any additional testing [F40]	Semiannual: report any test results [F44] Report excess emissions and permit deviations [F48]
Ammonium nitrate	Production rate 375 TPD [F11]	WAQSR Ch 6, Sec 2 Waiver AP-0251	Additional testing if required [F20]	Monitor production [F31]	Production records [F40]	Semiannual: report any production exceedances [F44] Report excess emissions and permit deviations [F48]

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Source ID#: **P268** Source Description: **LODAN Prill Tower**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity. Operate and maintain a continuous opacity monitor [F12] 27.7 lb/hr [F13]	WAQSR Ch 6, Sec 2 Permit OP-191	Additional testing if required [F20]	Continuous opacity monitor [F32] Compliance assurance monitoring (CAM) and annual particulate test [F33]	Record test results, CAM evaluation, CAM excursions, and Method 9 monitoring results [F40] Continuous opacity monitor records [F41] Additional CAM records [F42]	45 days: report test results [F43] Semiannual: report CAM results [F44] Quarterly: report opacity exceedances [F46] Report excess emissions and permit deviations [F48]

Source ID#: **P287** Source Description: **LODAN Wash Tower**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F12] 27.7 lb/hr [F13]	WAQSR Ch 6, Sec 2 Permit OP-191	Additional testing if required [F20]	Weekly Method 9 monitoring [F32] Compliance assurance monitoring (CAM) and annual particulate test [F33]	Record test results, CAM evaluation, CAM excursions, and Method 9 monitoring results [F40] Additional CAM records [F42]	45 days: report test results [F43] Semiannual: report Method 9 results and CAM [F44] Report excess emissions and permit deviations [F48]

Source ID#: **N001** Source Description: **LODAN Neutralizer and Evaporator**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F12] 6.9 lb/hr [F13]	WAQSR Ch 6, Sec 2 Permit MD-1502A	Additional testing if required [F20]	Weekly Method 9 monitoring [F32] Compliance assurance monitoring (CAM) and annual particulate test [F33]	Record test results, CAM evaluation, CAM excursions, and Method 9 monitoring results [F40] Additional CAM records [F42]	45 days: report test results [F43] Semiannual report Method 9 results and CAM [F44] Report excess emissions and permit deviations [F48]

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source Description: **Ford LSG-875IT Natural Gas-Fired Emergency Generator Engine**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity per F1 [F12] Hours limit per F3 [F14]	WAQSR Ch 3, Sec 2; Ch 6, Sec 2 Waiver AP-W86	Additional testing if required [F20]	Verification of natural gas firing per F21 [F32] Monitor operating hours per F23 [F34]	Record operating hours [F40]	Semiannual: report type of fuel fired [F44] Annual: report operating hours [F45] Report excess emissions and permit deviations [F48]
NO_X, CO, and VOC	WAQSR Ch 5, Sec 2; 40 CFR 60 Subparts A and JJJJ					
HAPs	WAQSR Ch 5, Sec 3; 40 CFR 63 Subparts A and ZZZZ					

Source Description: **Caterpillar 3406BDIT Diesel-Fired Emergency Fire Water Engine**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	30 percent opacity per F1 [F12]	WAQSR Ch 3, Sec 2	Additional testing if required [F20]	Monitor semiannually during availability checks per F21 [F32]	Record monitoring results [F40]	Semiannual: report monitoring results [F44] Report excess emissions and permit deviations [F48]
NO_X, CO, and VOC	WAQSR Ch 5, Sec 2; 40 CFR 60 Subparts A and JJJJ					
HAPs	WAQSR Ch 5, Sec 3; 40 CFR 63 Subparts A and ZZZZ					

Source ID#: **P342** Source Description: **Urea Plant Hotwell Scrubber**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	20 percent opacity [F15]	WAQSR Ch 3, Sec 2	Additional testing if required [F20]	None	Record the results of any additional testing [F40]	Report excess emissions and permit deviations [F48]
Ammonia	0.015 lb/hr, 0.075 TPY [F17]	WAQSR Ch6, Sec 2 Permit MD-166	Additional testing if required [F20]	None	Record the results of any additional testing [F40]	Report excess emissions and permit deviations [F48]

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

Source ID#: **P382** Source Description: **Urea Evaporator**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	40 percent opacity [F15] 15.8 lb/hr [F16] Prill production 6.9 TPH [F18]	WAQSR Ch 3, Sec 2 and Ch 6, Sec 2 Permits OP-191 and MD-166	Additional testing if required [F20]	Weekly Method 9 monitoring [F35] Test particulate once every 5 years [F36] Monitor production [F38]	Record test results and Method 9 monitoring results [F40] Record production [F40]	45 days: report test results [F43] Semiannual: report Method 9 results and any excess production [F44] Report excess emissions and permit deviations [F48]

Source ID#: **P391** Source Description: **Urea Prill Tower**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	40 percent opacity [F15] 43.1 lb/hr [F16] Prill production 6.9 TPH [F18]	WAQSR Ch 3, Sec 2, Ch 6, Sec 2 Permits OP-191 and MD-166	Additional testing if required [F20]	Weekly Method 9 monitoring [F35] Test particulate annually [F36] Monitor production [F38]	Record test results and Method 9 monitoring results [F40] Record production [F40]	45 days: report test results [F43] Semiannual: report Method 9 results and any excess production [F44] Report excess emissions and permit deviations [F48]

Source ID#: **P450** Source Description: **Urea Auxiliary Boiler**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	40 percent opacity [F15]	WAQSR Ch 3, Sec 2	Additional testing if required [F20]	Verification of natural gas [F35]	Record the results of any additional testing [F40]	Semiannual: report type of fuel fired [F44] Report excess emissions and permit deviations [F48]
NO_X	6.1 lb/hr [F17]	WAQSR Ch 6, Sec 2 Permit OP-191	Additional testing if required [F20]	Test every two years [F37]	Record test results [F40]	45 days: report test results [F43] Report excess emissions and permit deviations [F48]

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Source Description: **AkzoNobel Horizontal Expander**

Pollutant	Emissions Limit/Work Practice Standard	Corresponding Regulation(s)	Testing Requirements	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Particulate	No visible emissions. Operate and maintain [F19]	WAQSR Ch 3, Sec 2 and Ch 6, Sec 2 Waiver wv-12045	Additional testing if required [F20]	Weekly visual observations [F39]	Record monitoring results [F40]	Semiannual: report monitoring results [F44] Report excess emissions and permit deviations [F48]

These tables are intended only to highlight and summarize applicable requirements for each source. The corresponding permit conditions, listed in brackets, contain detailed descriptions of the compliance requirements. Compliance with the summary conditions in these tables may not be sufficient to meet permit requirements. These tables may not reflect all emission sources at this facility.

ABBREVIATIONS

AQD	Air Quality Division
BACT	Best available control technology (see Definitions)
Btu	British Thermal Unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
C.F.R.	Code of Federal Regulations
CO	Carbon monoxide
°F	Degrees Fahrenheit
DEQ	Wyoming Department of Environmental Quality
EPA	United States Environmental Protection Agency (see Definitions)
g	Gram(s)
g-cal/hr	Gram-calorie(s) per hour
g/hp-hr	Gram(s) per horsepower hour
gal	Gallon(s)
gr	Grain(s)
H_2S	Hydrogen sulfide
HAP(s)	Hazardous air pollutant(s)
hp	Horsepower
hr	Hour(s)
ID#	Identification number
lb	Pound(s)
M	Thousand
MACT	Maximum available control technology (see Definitions)
mfr	Manufacturer
mg	Milligram(s)
MM	Million
NMHC(s)	Non-methane hydrocarbon(s)
MVACs	Motor vehicle air conditioners
N/A	Not applicable
NO_X	Oxides of nitrogen
O_2	Oxygen
OPP	Operating Permit Program
PM	Particulate matter
PM_{10}	Particulate matter less than or equal to a nominal diameter of 10 micrometers
ppmv	Parts per million (by volume)
ppmw	Parts per million (by weight)
QIP	Quality Improvement Plan
RVP	Reid Vapor Pressure
SCF	Standard cubic foot (feet)
SCFD	Standard cubic foot (feet) per day
SCM	Standard cubic meter(s)
SIC	Standard Industrial Classification
SO_2	Sulfur dioxide
SO_3	Sulfur trioxide
SO_X	Oxides of sulfur
TBD	To be determined
TPY	Tons per year
U.S.C.	United States Code
µg	Microgram(s)
VOC(s)	Volatile organic compound(s)
W.S.	Wyoming Statute
WAQSR	Wyoming Air Quality Standards & Regulations (see Definitions)

DEFINITIONS

"Act" means the Clean Air Act, as amended, 42 U.S.C. 7401, *et seq.*

"Administrator" means Administrator of the Air Quality Division, Wyoming Department of Environmental Quality.

"Applicable requirement" means all of the following as they apply to emissions units at a source subject to Chapter 6, Section 3 of the WAQSR (including requirements with future effective compliance dates that have been promulgated or approved by the EPA or the State through rulemaking at the time of issuance of the operating permit):

(a) Any standard or other requirement provided for in the Wyoming implementation plan approved or promulgated by EPA under title I of the Act that implements the relevant requirements of the Act, including any revisions to the plan promulgated in 40 C.F.R. Part 52;

(b) Any standards or requirements in the WAQSR which are not a part of the approved Wyoming implementation plan and are not federally enforceable;

(c) Any term or condition of any preconstruction permits issued pursuant to regulations approved or promulgated through rulemaking under title I, including parts C or D of the Act and including Chapter 5, Section 2 and Chapter 6, Sections 2 and 4 of the WAQSR;

(d) Any standard or other requirement promulgated under Section 111 of the Act, including Section 111(d) and Chapter 5, Section 2 of the WAQSR;

(e) Any standard or other requirement under Section 112 of the Act, including any requirement concerning accident prevention under Section 112(r)(7) of the Act and including any regulations promulgated by EPA and the State pursuant to Section 112 of the Act;

(f) Any standard or other requirement of the acid rain program under title IV of the Act or the regulations promulgated thereunder;

(g) Any requirements established pursuant to Section 504(b) or Section 114(a)(3) of the Act concerning enhanced monitoring and compliance certifications;

(h) Any standard or other requirement governing solid waste incineration, under Section 129 of the Act;

(i) Any standard or other requirement for consumer and commercial products, under Section 183(e) of the Act (having to do with the release of volatile organic compounds under ozone control requirements);

(j) Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under title VI of the Act, unless the EPA has determined that such requirements need not be contained in a title V permit;

(k) Any national ambient air quality standard or increment or visibility requirement under part C of title I of the Act, but only as it would apply to temporary sources permitted pursuant to Section 504(e) of the Act; and

(l) Any state ambient air quality standard or increment or visibility requirement of the WAQSR.

(m) Nothing under paragraphs (A) through (L) above shall be construed as affecting the allowance program and Phase II compliance schedule under the acid rain provision of Title IV of the Act.

"BACT" or "Best available control technology" means an emission limitation (including a visible emission standard) based on the maximum degree of reduction of each pollutant subject to regulation under the WAQSR or regulation under the Federal Clean Air Act, which would be emitted from or which results for any proposed major emitting facility or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application or production processes and available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. If the Administrator determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, he may instead prescribe a design, equipment, work practice or operational standard or combination thereof to satisfy the requirement of Best Available Control Technology. Such standard shall, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice, or operation and shall provide for compliance by means which achieve equivalent results. Application of BACT shall not

result in emissions in excess of those allowed under Chapter 5, Section 2 of the WAQSR and any other new source performance standard or national emission standards for hazardous air pollutants promulgated by EPA but not yet adopted by the state.

"Department" means the Wyoming Department of Environmental Quality or its Director.

"Director" means the Director of the Wyoming Department of Environmental Quality.

"Division" means the Air Quality Division of the Wyoming Department of Environmental Quality or its Administrator.

"Emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the 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 preventative maintenance, careless or improper operation, or operator error.

"EPA" means the Administrator of the U.S. Environmental Protection Agency or the Administrator's designee.

"Fuel-burning equipment" means any furnace, boiler apparatus, stack, or appurtenances thereto used in the process of burning fuel or other combustible material for the purpose of producing heat or power by indirect heat transfer.

"Fugitive emissions" means those emissions which could not reasonably pass through a stack chimney, vent, or other functionally equivalent opening.

"Insignificant activities" means those activities which are incidental to the facility's primary business activity and which result in emissions of less than one ton per year of a regulated pollutant not included in the Section 112 (b) list of hazardous air pollutants or emissions less than 1000 pounds per year of a pollutant regulated pursuant to listing under Section 112 (b) of the Act provided, however, such emission levels of hazardous air pollutants do not exceed exemptions based on insignificant emission levels established by EPA through rulemaking for modification under Section 112 (g) of the Act.

"MACT" or "Maximum achievable control technology" means the maximum degree of reduction in emissions that is deemed achievable for new sources in a category or subcategory that shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator. Emission standards promulgated for existing sources in a category or subcategory may be less stringent than standards for new sources in the same category or subcategory but shall not be less stringent, and may be more stringent than:

(a) the average emission limitation achieved by the best performing 12 percent of the existing sources (for which the Administrator has emission information), excluding those sources that have, within 18 months before the emission standard is proposed or within 30 months before such standard is promulgated, whichever is later, first achieved a level of emission rate or emission reduction which complies, or would comply if the source is not subject to such standard, with the lowest achievable emission rate applicable to the source category and prevailing at the time, in the category or subcategory for categories and subcategories with 30 or more sources, or

(b) the average emission limitation achieved by the best performing five sources (for which the Administrator has or could reasonably obtain emissions information) in the category or subcategory for categories or subcategories with fewer than 30 sources.

"Modification" means any physical change in, or change in the method of operation of, an affected facility which increases the amount of any air pollutant (to which any state standards applies) emitted by such facility or which results in the emission of any such air pollutant not previously emitted.

"Permittee" means the person or entity to whom a Chapter 6, Section 3 permit is issued.

"Potential to emit" means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation is enforceable by EPA and the Division. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in title IV of the Act or the regulations promulgated thereunder.

"Regulated air pollutant" means the following:

(a) Nitrogen oxides (NO_X) or any volatile organic compound;

(b) Any pollutant for which a national ambient air quality standard has been promulgated;

(c) Any pollutant that is subject to any standard established in Chapter 5, Section 2 of the WAQSR or Section 111 of the Act;

(d) Any Class I or II substance subject to a standard promulgated under or established by title VI of the Act; or

(e) Any pollutant subject to a standard promulgated under Section 112 or other requirements established under Section 112 of the Act, including Sections 112(g), (j), and (r) of the Act, including the following:

(i) Any pollutant subject to requirements under Section 112(j) of the Act. If EPA fails to promulgate a standard by the date established pursuant to Section 112(e) of the Act, any pollutant for which a subject source would be major shall be considered to be regulated on the date 18 months after the applicable date established pursuant to Section 112(e) of the Act; and

(ii) Any pollutant for which the requirements of Section 112(g)(2) of the Act have been met, but only with respect to the individual source subject to Section 112(g)(2) requirement.

(f) Pollutants regulated solely under Section 112(r) of the Act are to be regulated only with respect to the requirements of Section 112(r) for permits issued under this Chapter 6, Section 3 of the WAQSR.

"Renewal" means the process by which a permit is reissued at the end of its term.

"Responsible official" means one of the following:

(a) For a corporation:

(i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(ii) A duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(A) the facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or

(B) the delegation of authority to such representative is approved in advance by the Division;

(b) For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

(c) For a municipality, State, Federal, or other public agency: Either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency; or

(d) For affected sources:

(i) The designated representative or alternate designated representative in so far as actions, standards, requirements, or prohibitions under title IV of the Act or the regulations promulgated thereunder are concerned; and

(ii) The designated representative, alternate designated representative, or responsible official under Chapter 6, Section 3 (b)(xxvi) of the WAQSR for all other purposes under this section.

"WAQSR" means the Wyoming Air Quality Standards and Regulations promulgated under the Wyoming Environmental Quality Act, W.S. §35-11-101, *et seq.*

APPENDIX A

Compliance Assurance Monitoring (CAM) Plan

COMPLIANCE ASSURANCE MONITORING (CAM) PLAN
NOs. 1 & 2 NITRIC ACID PLANTS
CATALYTIC ABATEMENT (NSCR) for NOx CONTROL

I. Background

A. Emissions Unit

Description:	No. 1 & No. 2 Nitric Acid Plants
Identification:	Emission Source #'s P143 & P169
Facility:	Dyno Nobel Inc. - Cheyenne Plant

B. Applicable Regulations, Emission Limit, and Pre-CAM Monitoring Requirements

Regulation:	WAQSR Ch 6, Sec 2 Permit MD-336 and WAQSR Chapter 3, Section 2
Emission Limit:	NOx, 6.0 lb/hr, each plant
	Visible emissions < 40% opacity
Pre-CAM Monitoring Requirements:	Weekly Method 9
	Quarterly portable analyzer NOx measurements

C. Control Technology, Capture System, Bypass, PTE

Controls:	Non Selective Catalytic Reduction (NSCR)
Capture System:	Closed-Duct System
Bypass:	No bypass possible
PTE Before Controls:	464 ton/year NOx
PTE After Controls:	26.2 ton/year NOx

II. Monitoring Approach

The key elements of the monitoring approach are presented in the attached table. Normal process operations will not produce conditions that adversely affect the NSCR system without affecting the tail gas temperature to the catalyst, the tail gas differential temperature across the catalyst, or visible emissions from the exhaust stack.

III. Response to Excursion

A. Excursions of the tail gas temperature to the catalyst and the tail gas differential temperature across the catalyst will trigger further investigation by Dyno Nobel personnel within 2 hours of receiving notification.

Any visible emissions from the exhaust stack will trigger further investigation by Dyno Nobel personnel within 4 hours of receiving notification from the certified Method 9 observer.

B. Quality Improvement Plan (QIP) Threshold: If any reference method testing, or portable analyzer testing conducted in accordance with WDEQ requirements, indicates emissions exceeding NOx limits while the performance indicator temperatures are within proper ranges, a QIP must be created and followed.

MONITORING APPROACH: Cheyenne Plant Nos. 1 & 2 Nitric Acid Plants (P143, P169)

	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4
I. Indicator	Inlet temperature to catalyst	Differential temperature across catalyst	Visible Emissions – Exhaust Stack	NOx Emissions
Measurement Approach	Temperature of tail gas to NSCR is monitored continuously with an in-line thermocouple, and readouts are available inside the control room via the plant's distributed control system (DCS), with an alarm to the control board.	Temperature of catalyst inlet and outlet streams are monitored continuously with a thermocouple. Differential temperature is automatically calculated and presented as a readout via the plant's distributed control system (DCS).	Visual observation	Portable analyzer testing as per WDEQ's Portable Analyzer Monitoring Protocol
II. Indicator Range	Temperature $\geq$ 475 °F	Differential temperature >300 °F.	Presence of visible emissions.	NOx $\leq$ 6.0 lb/hr from each plant
III. Performance Criteria				
A. Data Representativeness	Temperature is measured at the catalyst inlet by a thermocouple. The minimum accuracy is ±1 percent.	Temperature of catalyst inlet and outlet streams are monitored continuously with a thermocouple, each with a minimum accuracy is ±1 percent. Minimum accuracy of the differential temperature calculation, therefore, is ±1 percent.	Monitoring performed by a person educated on general procedures for determining the presence of visible emissions (not necessarily certified to perform Method 9 observations)	Test sampling performed at catalyst outlet sampling point.

MONITORING APPROACH: Cheyenne Plant Nos. 1 & 2 Nitric Acid Plants (P143, P169)

	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4
B. Verification of Operational Status	NA	NA	NA	NA
C. QA/QC Practices and Criteria	Continuous readout to control board provides frequent opportunity to assess data validity. Thermocouple fails to a zero value.	Continuous readout to control board provides frequent opportunity to assess data validity. Thermocouples fail to a zero value, resulting in a differential temperature value that is markedly different than normal or a negative value.	NA	WDEQ Portable Analyzer Monitoring Protocol
D. Monitoring Frequency	Catalyst inlet temperature measured continuously.	Differential temperature measured continuously.	Weekly	Annually
E. Data Collection Procedures	Data is continuously recorded in plant data historian.	Data is continuously recorded in plant data historian.	Visual observation results are documented in written report.	WDEQ Portable Analyzer Monitoring Protocol
F. Averaging Period	NA	NA		

05-19-2008 310127

JUSTIFICATION

I. Background

The monitoring approach outlined here applies to the catalyst abatement systems for NOx control on the No. 1 and No. 2 Nitric Acid Plants' tail gas streams. One system is in operation on each plant's tail gas stream. Both systems employ Non-Selective Catalytic Reduction, also known as NSCR.

II. Rationale for Selection of Performance Criteria

NSCR uses a fuel and a catalyst to perform three basic reactions which ultimately reduce NOx compounds to elemental nitrogen. Temperatures play a critical role in the NSCR chemical reactions. The absorber tail gas stream entering the catalyst must be heated to a sufficient ignition temperature before reaction will occur. Additionally, because the chemical reactions are exothermic, a temperature rise should always be observed across the catalyst bed. If the tail gas inlet temperature is too low, or if the differential temperature rise across the system is too low, then the chemical reactions to reduce NOx are not occurring. Temperature problems with the NSCR system will be seen as a result of issues with any of the key NSCR variables such as inlet concentrations, flow distribution, stoichiometry, catalyst or catalyst support, et cetera, and therefore is an excellent indicator of NSCR operation.

Continued visible emission monitoring and portable analyzer testing for NOx will confirm NSCR performance and that operation within these selected indicator ranges continue to assure compliance with the NOx emission limits.

III. Rationale for Selection of Indicator Ranges

The indicator ranges selected for the tail gas catalyst inlet temperature and differential temperature across the catalyst are values greater than or equal to 475°F and greater than 300°F, respectively. These ranges have proven over many years of operation to be minimum values necessary to maintain proper reaction across the catalyst.

The indicator range selected for the Method 9 visible emission testing is selected to be any visible emission greater than 40% opacity. This is the current WAQSR Chapter 3, Section 2 opacity limitation. Based on operating experience, this standard is met during times of normal operation with a properly functioning NSCR system; however, in the event of an NSCR malfunction, it is likely this standard will be exceeded.

AIR POLLUTION TESTING, INC.
DENVER, SALT LAKE CITY

APT Project PDYN1560
Dyno Nobel: Cheyenne Facility
Emissions Monitoring Report, 2nd Quarter 2011

Air Pollution Testing (APT) was contracted by Dyno Nobel to conduct a series of source emission tests at the Cheyenne, Wy Plant. The testing was conducted to comply with the periodic monitoring requirements imposed by the Wyoming Department of Environmental Quality (WDEQ).

Oxygen (O2), and nitrogen oxides (NOX) emission concentrations were measured using an electrochemical analyzer (Testo Model 350). A TECO Model 350 converter oven was used to convert NO2 to NO prior to analysis. The Testo instrument was calibrated in accordance with the Wyoming Portable Monitoring Protocol and met all applicable specifications. One, twenty-one minute sampling period was conducted at each source while the unit maintained a normal operating load. When necessary, stack gas samples were diluted during monitoring to assure on-scale measurement of emissions. Emission concentrations were used to calculate emission rates using fuel use and horsepower values derived in accordance with the Wyoming Portable Monitoring Protocol. The following table lists the results and the permitted values for each unit tested.

Emissions Testing Results Table: Reciprocating Engines: Cheyenne Facility: 2nd Quarter 2011

Unit ID	Test Date	Load (BHP)	Fuel Use (MMBtu/hr)	NOx Analysis Results and Permit Emission Limit				CO Analysis Results and Permit Emission Limit			
				Tested gm/hp-hr	Tested lb/hr	*Allowable gm/hp-hr*	*Allowable lb/hr*	Tested gm/hp-hr	Tested lb/hr	*Allowable gm/hp-hr*	*Allowable lb/hr*
Cooper North	5/10/11	4440	34.52	10.25	100.28	*16.10*	*170.61*	N/A	N/A	*N/A*	*N/A*
Cooper South	5/10/11	4120	33.18	5.43	49.32	*16.10*	*170.61*	N/A	N/A	*N/A*	*N/A*
Cummins East	5/10/11	270	2.29	0.08	0.05	*1.00*	*0.80*	0.71	0.42	*1.00*	*0.80*
Cummins West	5/10/11	206	1.94	0.54	0.25	*1.00*	*0.80*	0.79	0.36	*1.00*	*0.80*
Creole	5/10/11	162	1.53	1.64	0.59	*2.00*	*2.64*	N/A	N/A	*N/A*	*N/A*

Unit ID	Test Date	Load (BHP)	Fuel Use (dscfm)	NOx Analysis Results and Permit Emission Limit				CO Analysis Results and Permit Emission Limit			
				Tested lb/hr	Tested tons/yr	*Allowable lbs/hr*	*Allowable tons/yr*	Tested lb/hr	Tested tons/yr	*Allowable gm/hp-hr*	*Allowable tons/yr*
Acid Plant #1	5/10/11	N/A	7433	0.25	1.11	*6.00*	*26.28*	N/A	N/A	N/A	N/A
Acid Plant #2	5/10/11	N/A	5906	0.20	0.89	*6.00*	*26.28*	N/A	N/A	N/A	N/A

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Title V Data

Date	P-479A Amps		P-479B Amps		#1 Acid Comb Inlet		#1 Acid Comb Diff		#2 Acid Comb Inlet		#2 Acid Comb Diff	
5/10/2011	26.2	Amps	0.0	Amps	489.4826965	Deg F	567.6	Deg F	512.1	Deg F	507.8	Deg F
5/9/2011	0.0	Amps	29.3	Amps	491.6499939	Deg F	502.7	Deg F	567.3	Deg F	493.7	Deg F
5/8/2011	0.0	Amps	29.4	Amps	491.5606079	Deg F	490.3	Deg F	529.6	Deg F	489.0	Deg F
5/7/2011	0.0	Amps	29.5	Amps	492.0255127	Deg F	504.1	Deg F	520.6	Deg F	480.2	Deg F
5/6/2011	0.0	Amps	29.0	Amps	494.9259033	Deg F	518.5	Deg F	526.8	Deg F	482.3	Deg F
5/5/2011	0.0	Amps	29.3	Amps	492.1434937	Deg F	509.0	Deg F	526.6	Deg F	501.9	Deg F
5/4/2011	0.0	Amps	29.1	Amps	494.8721924	Deg F	524.0	Deg F	526.7	Deg F	498.2	Deg F
5/3/2011	0.0	Amps	29.2	Amps	494.8042908	Deg F	531.9	Deg F	527.1	Deg F	505.5	Deg F
5/2/2011	26.2	Amps	0.0	Amps	494.3716125	Deg F	531.9	Deg F	529.6	Deg F	481.3	Deg F
5/1/2011	26.5	Amps	0.0	Amps	492.6012878	Deg F	517.0	Deg F	520.6	Deg F	485.6	Deg F
4/30/2011	26.4	Amps	0.0	Amps	492.197113	Deg F	524.6	Deg F	566.3	Deg F	479.3	Deg F
4/29/2011	26.2	Amps	0.0	Amps	493.2843018	Deg F	524.1	Deg F	553.2	Deg F	504.7	Deg F
4/28/2011	26.2	Amps	0.0	Amps	493.0267944	Deg F	512.9	Deg F	524.9	Deg F	490.4	Deg F
4/27/2011	26.3	Amps	0.0	Amps	492.2543945	Deg F	501.6	Deg F	565.9	Deg F	466.8	Deg F
4/26/2011	26.2	Amps	0.0	Amps	493.4559937	Deg F	517.4	Deg F	580.4	Deg F	442.7	Deg F
4/25/2011	0.0	Amps	29.0	Amps	493.1448975	Deg F	520.9	Deg F	568.4	Deg F	445.7	Deg F
	>17	*Amps*	*>17*	*Amps*	*>475*	*Deg F*	*>300*	*Deg F*	*>475*	*Deg F*	*>300*	*Deg F*

AIR POLLUTION TESTING, INC.
DENVER, SALT LAKE CITY

APT Project PDYN1608
Dyno Nobel: Cheyenne Facility
Emissions Monitoring Report, 3rd Quarter 2011

Air Pollution Testing (APT) was contracted by Dyno Nobel to conduct a series of source emission tests at the Cheyenne, Wy Plant. The testing was conducted to comply with the periodic monitoring requirements imposed by the Wyoming Department of Environmental Quality (WDEQ).

Oxygen (O2), and nitrogen oxides (NOX) emission concentrations were measured using an electrochemical analyzer (Testo Model 350). A TECO Model 350 converter oven was used to convert NO2 to NO prior to analysis. The Testo instrument was calibrated in accordance with the Wyoming Portable Monitoring Protocol and met all applicable specifications. One, twenty-one minute sampling period was conducted at each source while the unit maintained a normal operating load. When necessary, stack gas samples were diluted during monitoring to assure on-scale measurement of emissions. Emission concentrations were used to calculate emission rates using fuel use and horsepower values derived in accordance with the Wyoming Portable Monitoring Protocol. The following table lists the results and the permitted values for each unit tested.

Emissions Testing Results Table: Reciprocating Engines: Cheyenne Facility: 3rd Quarter 2011

				NOx Analysis Results and Permit Emission Limit				CO Analysis Results and Permit Emission Limit			
Unit ID	Test Date	Load (BHP)	Fuel Use (MMBtu/ hr)	Tested gm/hp-hr	Tested lb/hr	*Allowable gm/hp-hr*	*Allowable lb/hr*	Tested gm/hp-hr	Tested lb/hr	*Allowable gm/hp-hr*	*Allowable lb/hr*
Cooper North	07/26/11	3718	34.95	5.01	41.04	*16.10*	*170.61*	N/A	N/A	*N/A*	*N/A*
Cooper South	07/26/11	3845	36.14	14.58	123.56	*16.10*	*170.61*	N/A	N/A	*N/A*	*N/A*
Creole	07/26/11	229	2.15	1.24	0.63	*2.00*	*2.64*	N/A	N/A	*N/A*	*N/A*

Emissions Testing Results Table: Primary Reformer and Auxillary Boiler #2: Cheyenne Facility: 3rd Quarter 2011

				NOx Analysis Results and Permit Emission Limit				CO Analysis Results and Permit Emission Limit			
Unit ID	Test Date	Load %	Fuel Use (MMBtu/ hr)	Tested lb/MMBtu	Tested lb/hr	*Allowable lb/MMBtu*	*Allowable lb/hr*	Tested lb/MMBtu	Tested lb/hr	*Allowable lb/MMBtu*	*Allowable lb/hr*
Aux. Boiler #2	07/26/11	N/A	24.27	0.12	2.84	*0.20*	*12.30*	N/A	N/A	*N/A*	*N/A*
Reformer	07/26/11	N/A	175.27	0.05	8.40	*0.16*	*28.20*	N/A	N/A	*N/A*	*N/A*

Emissions Testing Results Table: Acid Plants: Cheyenne Facility: 3rd Quarter 2011

				NOx Analysis Results and Permit Emission Limit				CO Analysis Results and Permit Emission Limit			
Unit ID	Test Date	Load (BHP)	Gas Flow (dscfm)	Tested lb/hr	Tested tons/yr	*Allowable lbs/hr*	*Allowable tons/yr*	Tested lb/hr	Tested tons/yr	*Allowable gm/hp-hr*	*Allowable tons/yr*
Acid Plant #1	07/26/11	N/A	6549.00	0.16	0.72	*6.00*	*26.28*	N/A	N/A	*N/A*	*N/A*
Acid Plant #2	07/26/11	N/A	6175.00	0.02	0.07	*6.00*	*26.28*	N/A	N/A	*N/A*	*N/A*

Title V Data

Date	P-479A Amps		P-479B Amps		#1 Acid Comb Inlet		#1 Acid Comb Diff		#2 Acid Comb Inlet		#2 Acid Comb Diff	
7/26/2011	0.0	Amps	29.1	Amps	486.7933044	Deg F	516.5	Deg F	560.3	Deg F	481.0	Deg F
7/25/2011	26.1	Amps	0.0	Amps	493.2629089	Deg F	574.4	Deg F	549.4	Deg F	486.5	Deg F
7/24/2011	26.0	Amps	0.0	Amps	492.343811	Deg F	488.9	Deg F	528.4	Deg F	491.7	Deg F
7/23/2011	26.3	Amps	0.0	Amps	492.8909912	Deg F	562.9	Deg F	546.4	Deg F	468.2	Deg F
7/22/2011	26.3	Amps	0.0	Amps	492.6871033	Deg F	541.1	Deg F	600.2	Deg F	777.7	Deg F
7/21/2011	26.4	Amps	0.0	Amps	78.94249725	Deg F	New Sig	Deg F	532.1	Deg F	486.0	Deg F
7/20/2011	26.4	Amps	0.0	Amps	84.37847137	Deg F	21.2	Deg F	492.4	Deg F	478.9	Deg F
7/19/2011	26.2	Amps	0.0	Amps	78.08995819	Deg F	25.8	Deg F	153.9	Deg F	-65.6	Deg F
7/18/2011	0.0	Amps	29.1	Amps	76.29106903	Deg F	26.4	Deg F	155.4	Deg F	-65.2	Deg F
7/17/2011	0.0	Amps	29.1	Amps	75.11087036	Deg F	30.2	Deg F	152.3	Deg F	-60.9	Deg F
7/16/2011	0.0	Amps	29.1	Amps	70.73700714	Deg F	22.6	Deg F	154.5	Deg F	-62.4	Deg F
7/15/2011	0.0	Amps	28.9	Amps	70.53674316	Deg F	16.4	Deg F	150.3	Deg F	-60.1	Deg F
7/14/2011	0.0	Amps	28.4	Amps	65.7587738	Deg F	21.5	Deg F	148.8	Deg F	-49.8	Deg F
7/13/2011	0.0	Amps	28.8	Amps	69.44953918	Deg F	18.9	Deg F	146.4	Deg F	-38.0	Deg F
7/12/2011	0.0	Amps	28.8	Amps	76.23742676	Deg F	14.7	Deg F	527.5	Deg F	487.0	Deg F
7/11/2011	25.9	Amps	0.0	Amps	73.65529633	Deg F	15.9	Deg F	520.7	Deg F	491.0	Deg F
	>17	***Amps***	***>17***	***Amps***	***>475***	***Deg F***	***>300***	***Deg F***	***>475***	***Deg F***	***>300***	***Deg F***

AIR POLLUTION TESTING, INC.
DENVER, SALT LAKE CITY

APT Project PDYN1660
Dyno Nobel: Cheyenne Facility
Emissions Monitoring Report, 4th Quarter 2011

Air Pollution Testing (APT) was contracted by Dyno Nobel to conduct a series of source emission tests at the Cheyenne, Wy Plant. The testing was conducted to comply with the periodic monitoring requirements imposed by the Wyoming Department of Environmental Quality (WDEQ).

Oxygen (O2), and nitrogen oxides (NOX) emission concentrations were measured using an electrochemical analyzer (Testo Model 350). A TECO Model 350 converter oven was used to convert NO2 to NO prior to analysis. The Testo instrument was calibrated in accordance with the Wyoming Portable Monitoring Protocol and met all applicable specifications. One, twenty-one minute sampling period was conducted at each source while the unit maintained a normal operating load. When necessary, stack gas samples were diluted during monitoring to assure on-scale measurement of emissions. Emission concentrations were used to calculate emission rates using fuel use and horsepower values derived in accordance with the Wyoming Portable Monitoring Protocol. The following table lists the results and the permitted values for each unit tested.

Emissions Testing Results Table: Reciprocating Engines: Cheyenne Facility: 4th Quarter 2011

				NOx Analysis Results and Permit Emission Limit				CO Analysis Results and Permit Emission Limit			
Unit ID	Test Date	Load (BHP)	Fuel Use (MMBtu/ hr)	Tested gm/hp-hr	Tested lb/hr	*Allowable gm/hp-hr*	*Allowable lb/hr*	Tested gm/hp-hr	Tested lb/hr	*Allowable gm/hp-hr*	*Allowable lb/hr*
Cooper North	11/08/11	3866	36.34	4.99	42.57	*16.10*	*170.61*	N/A	N/A	*N/A*	*N/A*
Cooper South	11/08/11	4430	34.31	13.62	133.04	*16.10*	*170.61*	N/A	N/A	*N/A*	*N/A*
Creole	11/08/11	296	2.79	0.97	0.63	*2.00*	*2.64*	N/A	N/A	*N/A*	*N/A*

Emissions Testing Results Table: Acid Plants: Cheyenne Facility: 4th Quarter 2011

				NOx Analysis Results and Permit Emission Limit				CO Analysis Results and Permit Emission Limit			
Unit ID	Test Date	Load (BHP)	Gas Flow (dscfm)	Tested lb/hr	Tested tons/yr	*Allowable lbs/hr*	*Allowable tons/yr*	Tested lb/hr	Tested tons/yr	*Allowable gm/hp-hr*	*Allowable tons/yr*
Acid Plant #1	11/08/11	N/A	6549.00	0.06	0.25	*6.00*	*26.28*	N/A	N/A	*N/A*	*N/A*
Acid Plant #2	11/08/11	N/A	6175.00	0.03	0.12	*6.00*	*26.28*	N/A	N/A	*N/A*	*N/A*

Title V Data

Date	P-479A Amps		P-479B Amps		#1 Acid Comb Inlet		#1 Acid Comb Diff		#2 Acid Comb Inlet		#2 Acid Comb Diff	
11/8/2011	26.1	Amps	0.0	Amps	497.0931091	Deg F	543.5	Deg F	623.8	Deg F	491.3	Deg F
11/7/2011	0.0	Amps	29.0	Amps	493.5454102	Deg F	549.1	Deg F	519.8	Deg F	497.9	Deg F
11/6/2011	0.0	Amps	29.2	Amps	493.9782104	Deg F	497.2	Deg F	591.1	Deg F	490.4	Deg F
11/5/2011	0.0	Amps	29.1	Amps	496.1203918	Deg F	509.4	Deg F	586.3	Deg F	448.5	Deg F
11/4/2011	0.0	Amps	29.1	Amps	445.1541138	Deg F	534.3	Deg F	595.9	Deg F	441.4	Deg F
11/3/2011	0.0	Amps	29.0	Amps	490.3052979	Deg F	645.5	Deg F	601.9	Deg F	474.6	Deg F
11/2/2011	0.0	Amps	29.1	Amps	495.262085	Deg F	519.7	Deg F	591.4	Deg F	448.1	Deg F
11/1/2011	0.0	Amps	29.1	Amps	495.7197876	Deg F	622.5	Deg F	592.6	Deg F	425.1	Deg F
10/31/2011	26.2	Amps	0.0	Amps	496.1453857	Deg F	538.1	Deg F	592.6	Deg F	410.2	Deg F
10/30/2011	26.2	Amps	0.0	Amps	495.8342896	Deg F	533.8	Deg F	592.0	Deg F	406.7	Deg F
10/29/2011	26.1	Amps	0.0	Amps	497.1789856	Deg F	550.1	Deg F	588.4	Deg F	425.9	Deg F
10/28/2011	26.1	Amps	0.0	Amps	498.7775879	Deg F	546.4	Deg F	596.6	Deg F	458.8	Deg F
10/27/2011	25.9	Amps	0.0	Amps	495.9415894	Deg F	510.4	Deg F	574.1	Deg F	457.4	Deg F
10/26/2011	26.2	Amps	0.0	Amps	492.6263123	Deg F	508.7	Deg F	534.5	Deg F	457.2	Deg F
10/25/2011	26.2	Amps	0.0	Amps	494.4324036	Deg F	505.6	Deg F	555.0	Deg F	458.8	Deg F
10/24/2011	16.6	Amps	10.7	Amps	493.5234985	Deg F	New Sig	Deg F	520.1	Deg F	461.0	Deg F
	>17	***Amps***	***>17***	***Amps***	***>475***	***Deg F***	***>300***	***Deg F***	***>475***	***Deg F***	***>300***	***Deg F***

AIR POLLUTION TESTING, INC.
DENVER, SALT LAKE CITY

APT Project PDYN2509
Dyno Nobel: Cheyenne Facility
Emissions Monitoring Report, 1st Quarter 2012

Air Pollution Testing (APT) was contracted by Dyno Nobel to conduct a series of source emission tests at the Cheyenne, Wy Plant. The testing was conducted to comply with the periodic monitoring requirements imposed by the Wyoming Department of Environmental Quality (WDEQ).

Oxygen (O2), and nitrogen oxides (NOX) emission concentrations were measured using an electrochemical analyzer (Testo Model 350). A TECO Model 350 converter oven was used to convert NO2 to NO prior to analysis. The Testo instrument was calibrated in accordance with the Wyoming Portable Monitoring Protocol and met all applicable specifications. One, twenty-one minute sampling period was conducted at each source while the unit maintained a normal operating load. When necessary, stack gas samples were diluted during monitoring to assure on-scale measurement of emissions. Emission concentrations were used to calculate emission rates using fuel use and horsepower values derived in accordance with the Wyoming Portable Monitoring Protocol. The following table lists the results and the permitted values for each unit tested.

Emissions Testing Results Table: Reciprocating Engines: Cheyenne Facility: 1st Quarter 2012

Unit ID	Test Date	Load (BHP)	Fuel Use (MMBtu/hr)	NOx Analysis Results and Permit Emission Limit				CO Analysis Results and Permit Emission Limit			
				Tested gm/hp-hr	Tested lb/hr	*Allowable gm/hp-hr*	*Allowable lb/hr*	Tested gm/hp-hr	Tested lb/hr	*Allowable gm/hp-hr*	*Allowable lb/hr*
Cooper North	2/7/12	4840	36.19	3.99	42.59	*16.10*	*170.61*	N/A	N/A	*N/A*	*N/A*
Cooper South	2/7/12	4560	35.87	6.06	60.89	*16.10*	*170.61*	N/A	N/A	*N/A*	*N/A*
Aux. Boiler #2	2/7/12	N/A	44.30	*0.09**	3.88	*.20**	*12.30*	N/A	N/A	*N/A*	*N/A*
Foster-Reform	2/7/12	N/A	185.27	.04*	7.22	*.20**	*12.30*	N/A	N/A	*N/A*	*N/A*
Creole	2/7/12	229	2.15	0.98	0.49	*2.00*	*2.64*	N/A	N/A	*N/A*	*N/A*

Unit ID	Test Date	Load (BHP)	Fuel Use (dscfm)	NOx Analysis Results and Permit Emission Limit				CO Analysis Results and Permit Emission Limit			
				Tested lb/hr	Tested tons/yr	*Allowable lbs/hr*	*Allowable tons/yr*	Tested lb/hr	Tested tons/yr	*Allowable gm/hp-hr*	*Allowable tons/yr*
Acid Plant #1	2/7/12	N/A	7433	0.09	0.41	*6.00*	*26.28*	N/A	N/A	N/A	N/A
Acid Plant #2	2/7/12	N/A	5906	0.80	3.50	*6.00*	*26.28*	N/A	N/A	N/A	N/A

*Units in lb/MMBtu for this source

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Title V Data

Date	P-479A Amps		P-479B Amps		#1 Acid Comb Inlet		#1 Acid Comb Diff		#2 Acid Comb Inlet		#2 Acid Comb Diff	
2/7/2012	0.0	Amps	29.1	Amps	502.1585999	Deg F	529.4	Deg F	510.5	Deg F	492.4	Deg F
2/6/2012	26.2	Amps	0.0	Amps	502.3674927	Deg F	521.2	Deg F	531.5	Deg F	492.4	Deg F
2/5/2012	25.9	Amps	0.0	Amps	501.4620056	Deg F	520.5	Deg F	534.1	Deg F	512.3	Deg F
2/4/2012	26.0	Amps	0.0	Amps	499.6781921	Deg F	502.8	Deg F	585.5	Deg F	510.3	Deg F
2/3/2012	26.0	Amps	0.0	Amps	499.6966858	Deg F	511.3	Deg F	580.8	Deg F	446.7	Deg F
2/2/2012	25.9	Amps	0.0	Amps	500.3634033	Deg F	506.9	Deg F	576.9	Deg F	451.7	Deg F
2/1/2012	26.3	Amps	0.0	Amps	499.8497925	Deg F	503.0	Deg F	582.8	Deg F	459.5	Deg F
1/31/2012	26.1	Amps	0.0	Amps	499.7926025	Deg F	492.7	Deg F	584.3	Deg F	453.3	Deg F
1/30/2012	0.0	Amps	28.9	Amps	500.1931152	Deg F	511.5	Deg F	542.5	Deg F	453.9	Deg F
1/29/2012	0.0	Amps	28.9	Amps	501.1272888	Deg F	554.2	Deg F	530.7	Deg F	487.7	Deg F
1/28/2012	0.0	Amps	29.0	Amps	496.9215088	Deg F	519.8	Deg F	609.6	Deg F	515.9	Deg F
1/27/2012	0.0	Amps	29.0	Amps	496.2533875	Deg F	527.6	Deg F	544.5	Deg F	483.5	Deg F
1/26/2012	0.0	Amps	28.9	Amps	499.5249939	Deg F	518.6	Deg F	530.9	Deg F	482.6	Deg F
1/25/2012	0.0	Amps	29.1	Amps	495.7869873	Deg F	507.7	Deg F	577.4	Deg F	476.6	Deg F
1/24/2012	0.0	Amps	28.9	Amps	495.1390076	Deg F	507.6	Deg F	576.7	Deg F	456.2	Deg F
1/23/2012	0.0	Amps	28.9	Amps	495.1676025	Deg F	611.6	Deg F	New Sig	Deg F	New Sig	Deg F
	>17	*Amps*	*>17*	*Amps*	*>475*	*Deg F*	*>300*	*Deg F*	*>475*	*Deg F*	*>300*	*Deg F*

COMPLIANCE ASSURANCE MONITORING (CAM) PLAN
NO. 1 LoDAN™ PRILL TOWER
WET SCRUBBER FOR PM CONTROL

I. Background

A. Emissions Unit

Description:	No. 1 LoDAN™ Prilling Tower
Identification:	Emission Source # P268 P&ID/PFD ID# H-421
Facility:	Dyno Nobel Inc. - Cheyenne Plant

B. Applicable Regulations, Emission Limit, and Pre-CAM Monitoring Requirements

Regulation:	WAQSR Ch 6, Sec 2 Permit OP-191
Emission Limit:	Particulate Matter, 27.7 lb/hr Visible emissions <20%
Pre-CAM Monitoring Requirements:	Annual Method 5 testing Continuous Opacity Monitoring (COM)

C. Control Technology, Capture System, Bypass, PTE

Controls:	Wet Scrubbers V-410A/B/C/D (total, 4)
Capture System:	Closed-Duct System
Bypass:	No bypass physically possible
PTE Before Controls:	2,426.5 ton/year PM
PTE After Controls:	121.3 ton/year PM

II. Monitoring Approach

The key elements of the monitoring approach are presented in the attached table. Normal process operations will not produce conditions that adversely affect the scrubber without affecting the pump motor amperage.

Note: Although a COMS is in place at this emission source, use of the COMS for this CAM Plan is not proposed.

III. Response to Excursion

A. Excursion of pump motor amperage will trigger inspection of the wash tower pumps and motors, within 4 hours of receiving notification.

B. Quality Improvement Plan (QIP) Threshold: If any reference method testing indicates emissions exceeding the particulate matter limit while wash tower pump motor amperage is within proper range, a QIP must be created and followed.

MONITORING APPROACH: Cheyenne Plant LoDAN Prill Tower Scrubber (P268)

	Indicator No. 1	Indicator No. 2
I. Indicator	Motor amperage for pumps P-479A/B	Reference Method Testing
Measurement Approach	Amperage is measured with ammeters, and readouts are available inside the control room via the plant's distributed control system (DCS), with an alarm at the control board for excursions.	Emissions testing using Methods 1-4 and 5.
II. Indicator Range	Motor amperage above 17.	Particulate matter ≤ 27.7 lb/hr.
III. Performance Criteria		
A. Data Representativeness	Motor amperage is measured at the pump motors by ammeters. The minimum accuracy of each ammeter is ±3%.	Test sampling performed at the four exhaust points at top of prill tower.
B. Verification of Operational Status	NA	NA
C. QA/QC Practices and Criteria	Equipment inspected during routine maintenance turnarounds.	Use reference method protocols.
D. Monitoring Frequency	Pump motor amps measured continuously.	Annually.
E. Data Collection Procedures	Data is continuously recorded in plant data historian.	As required by Methods 1-4 and 5.
F. Averaging Period	NA	NA

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JUSTIFICATION

I. Background

The monitoring approach outlined here applies to the scrubber system used on the No. 1 LoDAN™ Prill Tower for particulate emission control. Liquid ammonium nitrate solution enters the prill tower, where it is contacted with air and dried into solid prills. The prills fall to the bottom of the tower, while an exhaust gas stream of air and particulate matter (ammonium nitrate) rises up through the tower and exits via four separate exhaust stacks. Identical wet scrubber systems are located in each of the four exhaust stacks (V-410A/B/C/D). Each scrubber consists of a liquid spray bar and demister pad, located at the point where the exhaust stack exits the prill tower. Liquid is supplied to each scrubber system spray bar via two identical pumps (P-479A/B), then is recycled in the scrubber system.

II. Rationale for Selection of Performance Criteria

Wet scrubbers operate to control emissions by using a liquid spray to remove pollutants from a gas stream (particles are impinged on the liquid droplets). The water pumps' motor amperages were selected as performance indicators because they will indicate that the liquid stream is successfully being introduced to the scrubbers. Without the proper liquid flow, scrubbing of particulate matter will not occur.

Continued reference method testing for particulate matter will confirm the scrubber performance and that operation within these selected indicator ranges continue to assure compliance with the particulate matter emission limit.

This emission source uses a COMS for continuous opacity monitoring. However, use of the COMS in this CAM plan is not proposed, because insufficient data exists to correlate a range of opacity to particulate emission rates.

III. Rationale for Selection of Indicator Ranges

The indicator range selected for each pump motor amperage is an amperage greater than 17 A. This range was set based on the level required during normal operations. The pump motors are operated at a high enough setting to allow the pumps to distribute an adequate amount of liquid to all four scrubber systems.

COMPLIANCE ASSURANCE MONITORING (CAM) PLAN
NO. 1 LoDAN™ WASH TOWER
WET SCRUBBER FOR PM CONTROL

I. Background

A. Emissions Unit

Description:	No. 1 LoDAN™ Wash Tower
Identification:	Emission Source # P287 P&ID/PFD# V-416
Facility:	Dyno Nobel Inc. - Cheyenne Plant

B. Applicable Regulations, Emission Limit, and Pre-CAM Monitoring Requirements

Regulation:	WAQSR Ch 6, Sec 2 Permit OP-191
Emission Limit:	Particulate Matter, 27.7 lb/hr

Pre-CAM Monitoring Requirements: Annual Method 5 testing

C. Control Technology, Capture System, Bypass, PTE

Controls:	Wash Tower V-416 (wet scrubber)
Capture System:	Closed-Duct System
Bypass:	No bypass physically possible
PTE Before Controls:	2,426.5 ton/year PM
PTE After Controls:	121.3 ton/year PM

II. Monitoring Approach

The key elements of the monitoring approach are presented in the attached table. Normal process operations will not produce conditions that adversely affect the scrubber without affecting wash tower pump motor amperage.

III. Response to Excursion

A. Excursion of wash tower pump motor amperage will trigger inspections of the appropriate wash tower pump and motor within 4 hours of receiving notification.

B. Quality Improvement Plan (QIP) Threshold: If any reference method testing indicates emissions exceeding the particulate matter limit while wash tower pump motor amperage is within proper range, a QIP must be created and followed.

MONITORING APPROACH: Cheyenne Plant LoDAN Wash Tower (P287)

	Indicator No. 1	Indicator No. 2
I. Indicator	Motor amperage for wash tower pumps P-481A/B	Reference Method Testing
Measurement Approach	Amperage is measured with ammeters, and readout is available inside the control room via the plant's distributed control system (DCS), with an alarm at the control board for excursions.	Emissions testing using Methods 1-4 and 5.
II. Indicator Range	Motor amperage above 6.5.	Particulate Matter ≤ 27.7 lb/hr.
III. Performance Criteria		
A. Data Representativeness	Motor amperage is measured at the pump motors by ammeters. The minimum accuracy of each ammeter is ±3%.	Test sampling performed at the exhaust point.
B. Verification of Operational Status	NA	NA
C. QA/QC Practices and Criteria	Equipment inspected during routine maintenance turnarounds.	Use reference method protocols.
D. Monitoring Frequency	Pump motor amps measured continuously.	Annually.
E. Data Collection Procedures	Data is continuously recorded in plant data historian.	As required by Methods 1-4 and 5.
F. Averaging Period	NA	NA

JUSTIFICATION

I. Background

The monitoring approach outlined here applies to the Wash Tower scrubber system used for particulate control from the No. 1 LoDAN™ prill rotary dryer (Q-494). The dryer exhaust stream is directed to six dryer cyclones (V-414A-F) for product recovery, and then to the Wash Tower scrubber system (V-416). The Wash Tower is a wet venturi-type scrubber system with a mist eliminator. Liquid is supplied to spray nozzles upstream of the Wash Tower via two identical pumps, P-481A/B (Wash Tower Pumps).

II. Rationale for Selection of Performance Criteria

Wet scrubbers operate to control emissions by using a liquid spray to absorb pollutants from a gas stream. The wash tower pumps' motor amperages were selected as performance indicators because they will indicate that the liquid stream is successfully being introduced to the Wash Tower scrubber system. Without the proper liquid flow, scrubbing of particulate matter will not occur.

Continued reference method testing for particulate matter will confirm the Wash Tower scrubber system performance, and that operation within the selected indicator ranges continue to assure compliance with the particulate matter emission limit.

III. Rationale for Selection of Indicator Ranges

The indicator range selected for each wash tower pump motor amperage is an amperage greater than 6.5 A. This range was set based on the level required during normal operations. The pump motors are operated at a high enough setting to allow the pumps to distribute an adequate amount of liquid to the scrubber system.

Dyno Nobel Inc. #1 LoDAN Wash Tower Exhaust Test Results Summary, October 6, 2010 P287					
Field Data	Run #1	Run #2	Run #3	Average	*Emission Limit*
start time	9:40	11:19	12:58		
stop time	10:52	12:31	14:00		
stack temp. (°F)	105	106	106	**106**	
oxygen (%vd)	20.9	20.9	20.9	**20.9**	
carbon dioxide (%vd)	0.0	0.0	0.0	**0.0**	
moisture content (%vw)	8.5	7.7	4.7	**7.0**	
gas flow (dscfm)	53,398	53,825	52,524	**53,249**	
% isokinetic	102.0	100.8	99.2	**100.7**	
particulate emissions (lb/hr)	0.6	0.5	0.8	**0.6**	27.7
particulate emissions (gr/dscf)	0.001	0.001	0.002	**0.001**	
particulate emissions (tpy)	2.8	2.1	3.5	**2.8**	

Table 2.1: #1 LoDAN Wash Tower Test Results Summary

Dyno Nobel Inc. #1 LoDAN Prill Tower Test Results Summary, October 5 and 6, 2010 P268						
Stack	Stack A [1]	Stack B [1]	Stack C [1]	Stack D [1]	Total [2]	
stack temp. (°F)	69	68	71	70		*Emission*
oxygen (%vd)	20.9	20.9	20.9	20.9		*Limit*
carbon dioxide (%vd)	0.0	0.0	0.0	0.0		
moisture content (%vw)	2.2	2.4	1.9	2.5		
gas flow (dscfm)	56,705	57,102	58,374	53,214		
% isokinetic	101.4	99.8	99.9	100.9		
particulate emissions (lb/hr)	1.7	2.0	1.1	2.3	**7.0**	27.7
particulate emissions (gr/dscf)	0.003	0.004	0.002	0.005	**0.004**	
particulate emissions (tpy)	7.3	8.7	4.7	10.1	**30.8**	

[1] Average of three runs at each location
[2] Values are the sum of mass emissions (lb/hr and tpy) and an average of concentrations (gr/dscf).

Table 2.2: #1 LoDAN Prill Tower Test Results Summary

Title V Data

Drill Tower Scrubber Water Pumps

Date	P-479A Amps		P-479B Amps		#1 Acid Comb Inlet		#1 Acid Comb Diff		#2 Acid Comb Inlet		#2 Acid Comb Diff	
10/6/2010	0.0	Amps	29.3	Amps	64.8274765	Deg F	1.3	Deg F	114.5	Deg F	-34.1	Deg F
10/5/2010	0.0	Amps	29.2	Amps	61.4957695	Deg F	4.8	Deg F	116.0	Deg F	-36.1	Deg F
10/4/2010	26.0	Amps	0.0	Amps	50.42345047	Deg F	0.9	Deg F	110.5	Deg F	-32.9	Deg F
10/3/2010	26.1	Amps	0.0	Amps	59.43294907	Deg F	1.3	Deg F	112.1	Deg F	-37.0	Deg F
10/2/2010	26.1	Amps	0.0	Amps	60.86634064	Deg F	0.9	Deg F	125.0	Deg F	-36.9	Deg F
10/1/2010	26.5	Amps	0.0	Amps	59.86782074	Deg F	-0.7	Deg F	113.3	Deg F	-34.1	Deg F
9/30/2010	26.5	Amps	0.0	Amps	70.67978668	Deg F	1.5	Deg F	132.5	Deg F	-39.7	Deg F
9/29/2010	26.4	Amps	0.0	Amps	64.04212189	Deg F	-1.6	Deg F	121.9	Deg F	-31.4	Deg F
9/28/2010	26.4	Amps	0.0	Amps	69.27787018	Deg F	2.0	Deg F	127.9	Deg F	-40.4	Deg F
9/27/2010	0.0	Amps	29.1	Amps	62.18243027	Deg F	1.3	Deg F	120.0	Deg F	-32.2	Deg F
9/26/2010	0.0	Amps	29.1	Amps	62.06798935	Deg F	1.6	Deg F	121.6	Deg F	-37.6	Deg F
9/25/2010	0.0	Amps	29.2	Amps	56.63196945	Deg F	0.2	Deg F	122.8	Deg F	-40.5	Deg F
9/24/2010	0.0	Amps	29.0	Amps	57.66194153	Deg F	0.9	Deg F	125.8	Deg F	-39.8	Deg F
9/23/2010	0.0	Amps	29.1	Amps	62.84046936	Deg F	0.4	Deg F	109.6	Deg F	-30.6	Deg F
9/22/2010	0.0	Amps	29.6	Amps	66.54985046	Deg F	1.8	Deg F	122.3	Deg F	-33.3	Deg F
9/21/2010	0.0	Amps	29.5	Amps	69.96453094	Deg F	4.5	Deg F	136.6	Deg F	-44.7	Deg F
	>17	*Amps*	*>17*	*Amps*	*>475*	*Deg F*	*>300*	*Deg F*	*>475*	*Deg F*	*>300*	*Deg F*

Title V Data

Wash Tower Pumps

Date	RO Feed Wtr Ph		NH3 Firewater Pmp		NH3 Backup Gen		P-481A Amps		P-481B Amps	
10/12/2011	4.5	Ph	60.3	Hrs.	16.0	Hrs.	8.9	Amps	0.0	Amps
10/11/2011	4.5	Ph	60.3	Hrs.	16.0	Hrs.	8.7	Amps	0.0	Amps
10/10/2011	4.5	Ph	60.3	Hrs.	16.0	Hrs.	0.0	Amps	10.6	Amps
10/9/2011	4.5	Ph	58.8	Hrs.	16.0	Hrs.	0.0	Amps	10.6	Amps
10/8/2011	4.5	Ph	58.8	Hrs.	16.0	Hrs.	0.0	Amps	11.1	Amps
10/7/2011	4.5	Ph	58.8	Hrs.	16.0	Hrs.	0.0	Amps	10.8	Amps
10/6/2011	4.5	Ph	58.8	Hrs.	16.0	Hrs.	0.0	Amps	10.5	Amps
10/5/2011	4.5	Ph	58.8	Hrs.	16.0	Hrs.	0.0	Amps	10.0	Amps
10/4/2011	4.5	Ph	58.2	Hrs.	16.0	Hrs.	0.0	Amps	10.8	Amps
10/3/2011	4.5	Ph	58.2	Hrs.	16.0	Hrs.	8.6	Amps	0.0	Amps
10/2/2011	4.5	Ph	58.2	Hrs.	16.0	Hrs.	8.6	Amps	0.0	Amps
10/1/2011	4.5	Ph	58.2	Hrs.	16.0	Hrs.	8.6	Amps	0.0	Amps
9/30/2011	4.5	Ph	58.2	Hrs.	16.0	Hrs.	8.6	Amps	0.0	Amps
9/29/2011	4.5	Ph	58.2	Hrs.	16.0	Hrs.	8.8	Amps	0.0	Amps
9/28/2011	4.5	Ph	58.2	Hrs.	16.0	Hrs.	8.7	Amps	0.0	Amps
9/27/2011	4.5	Ph	58.2	Hrs.	16.0	Hrs.	8.7	Amps	0.0	Amps
Permit Limits	***4.50***	***Ph***	***< 500***	***Hrs.***	***No Limit***		***>6.5***	***Amps***	***>6.5***	***Amps***

10/12/2011 Wednesday

COMPLIANCE ASSURANCE MONITORING (CAM) PLAN
NO. 2 LoDAN™ NEUTRALIZER & EVAPORATOR SECTION WET SCRUBBER FOR PM CONTROL

I. Background

A. Emissions Unit

Description: Tower	No. 2 LoDAN™ Neutralizer & Evaporator Section
Identification:	Emission Source # N001
Facility:	Dyno Nobel Inc. - Cheyenne Plant

B. Applicable Regulations, Emission Limit, and Pre-CAM Monitoring Requirements

Regulation:	WAQSR Ch 6, Sec 2 Permit MD-1502
Emission Limit:	Particulate Matter, 6.9 lb/hr
	Visible emissions < 20%
Pre-CAM Monitoring Requirements:	Annual Method 5 testing
	Weekly Method 9 observations

C. Control Technology, Capture System, Bypass, PTE

Controls:	Venturi wet scrubber system followed by Koch packed tower
Capture System:	Closed-Duct System
Bypass:	No bypass physically possible
PTE Before Controls:	604.4 ton/year PM
PTE After Controls:	30.2 ton/year PM

II. Monitoring Approach

The key elements of the monitoring approach are presented in the attached table. Normal process operations will not produce conditions that adversely affect the scrubber without affecting the pump motor amperage.

III. Response to Excursion

A. Excursion of pump motor amperage will trigger inspections of the appropriate No. 2 LoDAN™ Neutralizer & Evaporator Section Tower Scrubber System pump and motor within 4 hours of receiving notification.

B. Quality Improvement Plan (QIP) Threshold: If any reference method testing indicates emissions exceeding the particulate matter limit while scrubber system pump motor amperage is within proper range, a QIP must be created and followed.

MONITORING APPROACH: Cheyenne Plant #2 LoDAN Neutralizer & Evaporator Section (N001)

	Indicator No. 1	Indicator No. 2
I. Indicator	Motor amperage for pumps P-30511A/B	Reference Method Testing
Measurement Approach	Amperage is measured with ammeters, and readout is available inside the control room via the plant's distributed control system (DCS), with an alarm at the control board for excursions.	Emissions testing using Methods 1-4 and 5.
II. Indicator Range	Motor amperage above 40.0.	Particulate Matter ≤ 6.9 lb/hr.
III. Performance Criteria		
A. Data Representativeness	Motor amperage is measured at the pump motors by ammeters. The minimum accuracy of each ammeter is ±0.25%.	Test sampling performed at the exhaust point.
B. Verification of Operational Status	NA	NA
C. QA/QC Practices and Criteria	Equipment inspected during routine maintenance turnarounds.	Use reference method protocols.
D. Monitoring Frequency	Pump motor amps measured continuously.	Annually.
E. Data Collection Procedures	Data is continuously recorded in plant data historian.	As required by Methods 1-4 and 5.
F. Averaging Period	NA	NA

JUSTIFICATION

I. Background

The monitoring approach outlined here applies to the scrubber system used for particulate control from the No. 2 LoDAN™ Neutralizer & Evaporator Section (N-001). The exhaust is directed through a fume venturi scrubber system, where it is condensed by direct contact with a cool dilute ammonium nitrate solution in two eductors (jet venturi scrubbers) arranged in series. Ammonia is absorbed from the exhaust by reaction with nitric acid to form dilute ammonium nitrate solution. The fume scrubber system is followed by a cooling/stripping packed tower designed by Koch Engineering to remove excess water without carry-out of ammonium nitrate product. The cooled ammonium nitrate solution is recirculated to the eductors and recycled to the process. The ammonia and particulate removal efficiency is estimated at 95-99.9 percent.

II. Rationale for Selection of Performance Criteria

Wet scrubbers operate to control emissions by using a liquid spray to absorb pollutants from a gas stream (particles are impinged on the liquid droplets). The scrubber pumps' motor amperages were selected as performance indicators because they will indicate that the liquid stream is successfully being introduced to the scrubber system. Without the proper liquid flow, scrubbing of particulate matter will not occur.

Continued reference method testing for particulate matter will confirm the No. 2 LoDAN™ Neutralizer & Evaporator Section scrubber system performance, and that operation within the selected indicator ranges continue to assure compliance with the particulate matter emission limit.

III. Rationale for Selection of Indicator Ranges

The indicator range selected for each pump motor amperage is an amperage greater than 40.0A. This range was set based on the level required during normal operations. The pump motors are operated at a high enough setting to allow the pumps to distribute an adequate amount of liquid to the scrubber system.