ROY COOPER
Governor
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Director

NORTH CAROLINA
Environmental Quality

XXXXX XX, 2023

William Ponton
General Manager
PCS Phosphate Company, Inc. - Aurora
1530 NC Highway 306 South
Aurora, North Carolina 27806

SUBJECT: Air Quality Permit No. 04176T69
Facility ID: 0700071
PCS Phosphate Company, Inc. - Aurora
Aurora
Beaufort County
Fee Class: Title V
PSD Class: Major

Dear Mr. Ponton:

In accordance with your completed Air Quality Permit Applications for a 502(b)(10) notification and for a one-step significant modification under 15A NCAC 02Q .0501(b)(1), we are forwarding herewith Air Quality Permit No. 04176T69 authorizing the construction and the operation, of the emission sources and associated air pollution control devices specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 02Q .0503(8) have been identified as such in the permit. Please note the requirements for the annual compliance certification are contained in General Condition P in Section 4. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

As the designated responsible official, it is your responsibility to review, understand, and abide by all of the terms and conditions of the attached permit. It is also your responsibility to ensure that any person who operates any emission source and associated air pollution control device subject to any term or condition of the attached permit reviews, understands, and abides by the condition(s) of the attached permit that are applicable to that particular emission source.

If any parts, requirements, or limitations contained in this Air Quality Permit are unacceptable to you, you have the right to file a petition for contested case hearing in the North Carolina Office of Administrative Hearings. Information regarding the right, procedure, and time limit for permittees and other persons aggrieved to file such a petition is contained in the attached "Notice Regarding the Right to Contest a Division of Air Quality Permit Decision."

The construction of new air pollution emission source(s) and associated air pollution control device(s), or modifications to the emission source(s) and air pollution control device(s) described in this permit must be covered under an Air Quality Permit issued by the Division of Air Quality prior to construction unless the Permittee has fulfilled the requirements of NCGS 143-215.108A(b) and received written approval from the Director of the Division of Air Quality to commence construction. Failure to

receive an Air Quality Permit or written approval prior to commencing construction is a violation of NCGS 143-215.108A and may subject the Permittee to civil or criminal penalties as described in NCGS 143-215.114A and 143-215.114B.

Beaufort County has triggered increment tracking under PSD for NO_X, SO_2, and PM_{10} emissions However, this permit modification does not consume or expand increments for any pollutants.

This Air Quality Permit shall be effective from XXXXX XX, 2023 until November 30, 2027, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

Should you have any questions concerning this matter, please contact Emily Supple at (919) 707-8481 or Emily.supple@deq.nc.gov.

Sincerely yours,

Mark J. Cuilla, EIT, CPM, Chief, Permitting Section
Division of Air Quality, NCDEQ

Enclosure

c: Brad Akers, EPA Region 4 (Permit and Review)
Connie Horne (cover letter only)
Laserfiche (0700071)

NOTICE REGARDING THE RIGHT TO CONTEST A DIVISION OF AIR QUALITY PERMIT DECISION

Right of the Permit Applicant or Permittee to File a Contested Case: Pursuant to NCGS 143-215.108(e), a permit applicant or permittee who is dissatisfied with the Division of Air Quality's decision on a permit application may commence a contested case by filing a petition under NCGS 150B-23 in the Office of Administrative Hearings within 30 days after the Division notifies the applicant or permittee of its decision. If the applicant or permittee does not file a petition within the required time, the Division's decision on the application is final and is not subject to review. The filing of a petition will stay the Division's decision until resolution of the contested case.

Right of Other Persons Aggrieved to File a Contested Case: Pursuant to NCGS 143-215.108(e1), a person other than an applicant or permittee who is a person aggrieved by the Division's decision on a permit application may commence a contested case by filing a petition under NCGS 150B-23 within 30 days after the Division provides notice of its decision on a permit application, as provided in NCGS 150B-23(f), or by posting the decision on a publicly available Web site. The filing of a petition under this subsection does not stay the Division's decision except as ordered by the administrative law judge under NCGS 150B-33(b).

General Filing Instructions: A petition for contested case hearing must be in the form of a written petition, conforming to NCGS 150B-23, and filed with the Office of Administrative Hearings, 1711 New Hope Church Road, Raleigh NC, 27609, along with a fee in an amount provided in NCGS 150B-23.2. A petition for contested case hearing form may be obtained upon request from the Office of Administrative Hearings or on its website at https://www.oah.nc.gov/hearings-division/filing/hearing-forms. Additional specific instructions for filing a petition are set forth at 26 NCAC Chapter 03.

Service Instructions: A party filing a contested case is required to serve a copy of the petition, by any means authorized under 26 NCAC 03 .0102, on the process agent for the Department of Environmental Quality:

William F. Lane, General Counsel
North Carolina Department of Environmental Quality
1601 Mail Service Center
Raleigh, North Carolina 27699-1601

If the party filing the petition is a person aggrieved other than the permittee or permit applicant, the party **must also** serve the permittee in accordance with NCGS 150B-23(a).

* * *

Additional information is available at https://www.oah.nc.gov/hearings-division/hearing-process/filing-contested-case. Please contact the OAH at 984-236-1850 or oah.postmaster@oah.nc.gov with all questions regarding the filing fee and/or the details of the filing process.

Summary of Changes to Permit

The following changes were made to Air Permit No. 04176T68:*

Page No.	Section	Description of Changes
Cover and throughout	--	• Updated all dates and permit revision numbers.
25	2.1.1 A.2.b	• Removed NOx testing requirements
26	2.1.1 A.3.f	• Revised sulfuric acid mist testing requirement from annually to once every three years
29	2.1.1 A.4.c	• Removed NOx testing requirements
43	2.1.2 A.1.c	• Revised PM_{10} testing requirement such that two calciners may be tested each year as representative of all six calciners
47	2.1.2 A.5.h	• Revised PM, fluorides, and mercury testing requirement such that two calciners may be tested each year as representative of all six calciners
170	2.2 A.1.c	• Revised sulfuric acid mist testing requirement from annually to once every three years
183	3	• Added I-SAL to insignificant activities list.
188-196	General Conditions	• Updated to the latest version of DAQ shell version 6.0 01/17/2022.

* This list is not intended to be a detailed record of every change made to the permit but a summary of those changes.

State of North Carolina
Department of Environmental Quality
Division of Air Quality

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.	Effective Date	Expiration Date
04176T69	04176T68	XXXXX XX, 2023	November 30, 2027

NOTE: Per General Condition K, a permit application for the renewal of this Title V permit shall be submitted no later than May 31, 2027.

Until such time as this permit expires or is modified or revoked, the below named Permittee is permitted to construct and operate, the emission source(s) and associated air pollution control device(s) specified herein, in accordance with the terms, conditions, and limitations within this permit. This permit is issued under the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and Title 15A North Carolina Administrative Codes (15A NCAC), Subchapters 02D and 02Q, and other applicable Laws.

Pursuant to Title 15A NCAC, Subchapter 02Q, the Permittee shall not construct, operate, or modify any emission source(s) or air pollution control device(s) without having first submitted a complete Air Quality Permit Application to the permitting authority and received an Air Quality Permit, except as provided in this permit.

Permittee:	**PCS Phosphate Company, Inc. - Aurora**
Facility ID:	**0700071**
Primary SIC Code:	**2874**
NAICS	**325312**
Facility Site Location:	**1530 NC Highway 306 South**
City, County, State, Zip:	**Aurora, Beaufort County, North Carolina, 27806**
Mailing Address:	**1530 NC Highway 306 South**
City, State, Zip:	**Aurora, North Carolina, 27806**
Application Number:	**0700071.22E, 0700071.22F**
Complete Application Date:	**September 27, 2022, September 26, 2022**
Division of Air Quality, Regional Office Address:	**Washington Regional Office 943 Washington Square Mall Washington, NC 27889**

Permit issued this the XX day of XXXXX, 2023.

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Mark J. Cuilla, EIT, CPM, Chief, Air Permitting Section
By Authority of the Environmental Management Commission

Table of Contents

List of Acronyms

AOS	Alternative Operating Scenario
BACT	Best Available Control Technology
BAE	Baseline Actual Emissions
Btu	British thermal unit
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CEDRI	Compliance and Emissions Data Reporting Interface
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMS	Continuous Opacity Monitoring System
CSAPR	Cross-State Air Pollution Rule
DAQ	Division of Air Quality
DEQ	Department of Environmental Quality
EMC	Environmental Management Commission
EPA	Environmental Protection Agency
FR	Federal Register
GACT	Generally Available Control Technology
GHGs	Greenhouse Gases
HAP	Hazardous Air Pollutant
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
NAA	Non-Attainment Area
NAAQS	National Ambient Air Quality Standards
NAICS	North American Industry Classification System
NCAC	North Carolina Administrative Code
NCGS	North Carolina General Statutes
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_X	Nitrogen Oxides
NSPS	New Source Performance Standard
NSR	New Source Review
OAH	Office of Administrative Hearings
PAE	Projected Actual Emissions
PAL	Plantwide Applicability Limitation
PM	Particulate Matter
$PM_{2.5}$	Particulate Matter with Nominal Aerodynamic Diameter of 2.5 Micrometers or Less
PM_{10}	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
POS	Primary Operating Scenario
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RACT	Reasonably Available Control Technology
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TAP	Toxic Air Pollutant
tpy	Tons Per Year
VOC	Volatile Organic Compound

SECTION 1 - PERMITTED EMISSION SOURCE(S) AND ASSOCIATED AIR POLLUTION CONTROL DEVICE(S) AND APPURTENANCES

The following tables contain a summary of all permitted emission sources and associated air pollution control devices and appurtenances:

1.1 Sulfuric Acid Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
S-5[2] **NSPS H**	Sulfuric acid plant No. 5: Double-absorption sulfuric acid plant (3,600 tons per day nominal capacity)	415-934	Vertical tube mist eliminator system NOTE: Double absorption process provides control of SO_2 from the sulfuric acid plants	103
S-6[2] **NSPS H**	Sulfuric acid plant No. 6: Double-absorption sulfuric acid plant (3,800 tons per day nominal capacity)	406-129	Vertical tube mist eliminator system NOTE: Double absorption process provides control of SO_2 from the sulfuric acid plants	104
S-7[2] **PSD BACT NSPS H**	Sulfuric acid plant No. 7: Double-absorption sulfuric acid plant (5,400 tons per day nominal capacity)	407-258	Vertical tube mist eliminator system NOTE: Double absorption process provides control of SO_2 from the sulfuric acid plants	105
BW **NSPS Dc MACT DDDDD**	Auxiliary boiler – No. 2 fuel oil-fired (99.56 million Btu per hour maximum capacity)	N/A	N/A	110
S-5F[1]	Fugitive emissions from sulfuric acid plant No. 5	N/A	N/A	192
S-6F[1]	Fugitive emissions from sulfuric acid plant No. 6	N/A	N/A	193
S-7F[1]	Fugitive emissions from sulfuric acid plant No. 7	N/A	N/A	194

1. These are insignificant sources subject to state enforceable only requirements.
2. Pursuant to application no. 0700071.22B, these emission sources **(ID Nos. S-5, S-6, and S-7)** are listed as a 15A NCAC 02Q .0501(b)(2) modification. The Permittee shall file a Title V Air Quality Permit Application on or before 12 months after commencing operation of this emission source **(ID No. I-SAL)** in accordance with General Condition NN. The permit shield described in General Condition R does not apply and annual compliance certification as described in General Condition P is not required.

1.2 Mill Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
339-051 **MACT AA**	No. 1 phosphate rock calciner: coal/coke/"off-spec" used oil/used oil sludge/used glycols/No. 2 fuel oil/No. 6 fuel oil/natural gas-fired vertical fluidized bed unit (105.1 tons per hour nominal feed)	339-381a 339-381b 339-381c 339-381d	Two duplex cyclones Fixed-throat Venturi wet scrubber Wet electrostatic precipitator	201
339-052 **MACT AA**	No. 2 phosphate rock calciner: coal/coke/"off-spec" used oil/used oil sludge/used glycols/No. 2 fuel oil/No. 6 fuel oil/natural gas-fired vertical fluidized bed unit (105.1 tons per hour nominal feed)	339-382a 339-382b 339-382c 339-382d	Two duplex cyclones Fixed-throat Venturi wet scrubber Wet electrostatic precipitator	202
339-053 **MACT AA**	No. 3 phosphate rock calciner: coal/coke/"off-spec" used oil/used oil sludge/used glycols/No. 2 fuel oil/No. 6 fuel oil/natural gas-fired vertical fluidized bed unit (105.1 tons per hour nominal feed)	339-383a 339-383b 339-383c 339-383d	Two duplex cyclones Fixed-throat Venturi wet scrubber Wet electrostatic precipitator	203
339-054 **MACT AA**	No. 4 phosphate rock calciner: coal/coke/"off-spec" used oil/used oil sludge/used glycols/No. 2 fuel oil/No. 6 fuel oil/natural gas-fired vertical fluidized bed unit (105.1 tons per hour nominal feed)	339-384a 339-384b 339-384c 339-384d	Two duplex cyclones Fixed-throat Venturi wet scrubber Wet electrostatic precipitator	204
339-055 **MACT AA**	No. 5 phosphate rock calciner: coal/coke/"off-spec" used oil/used oil sludge/used glycols/No. 2 fuel oil/No. 6 fuel oil/natural gas-fired vertical fluidized bed unit (105.1 tons per hour nominal feed)	339-385a 339-385b 339-385c 339-385d	Two duplex cyclones Fixed-throat Venturi wet scrubber Wet electrostatic precipitator	205
339-056 **MACT AA**	No. 6 phosphate rock calciner: coal/coke/"off-spec" used oil/used oil sludge/used glycols/No. 2 fuel oil/No. 6 fuel oil/natural gas-fired vertical fluidized bed unit (105.1 tons per hour nominal feed)	339-386a 339-386b 339-386c 339-386d	Two duplex cyclones Fixed-throat Venturi wet scrubber Wet electrostatic precipitator	206
332-120	Phosphate rock dryer: No. 6 fuel oil-fired rock dryer (250 tons per hour nominal capacity)	332-370a 332-370b	Duplex cyclone Venturi wet scrubber	210
341-300 **NSPS Y**	Coal/coke pulverizer and thermal dryer system (20 tons per hour nominal capacity)	341-310 341-331 341-332	Single cyclone Two parallel bagfilters	215
Belt55 to Belt70.1	Calcined rock CTS baghouse	339-860	Bagfilter	221
Belt21 to Belt23 or Belt24	Storage silo baghouse	333-180	Bagfilter	222

1.2 Mill Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
Belt22 to Belt23 or Belt24	Storage silo baghouse	333-190	Bagfilter	222
224	Polymer storage bin	320-215-478	Bagfilter	224
Belt25 and Belt26 to Belt27	Calcined/dried rock CTS	N/A	Enclosure	227
F290[1]	Mill concentrator fugitives	N/A	N/A	290
F291[1]	Calciner plant area fugitives	N/A	N/A	291
341-100 **NSPS Y**	Coal/coke railcar unloader (75 tons per hour nominal capacity) with associated curtains, choke feeder, and wet suppression (spray) system	N/A	N/A	294a
341-110, 341-111, 341-112, 341-120 **NSPS Y**	Three parallel conveyor belts with associated wet suppression (spray) system, conveyor skirts at transfer points, and hood covers which transfer to Single belt conveyor	N/A	N/A	294b
341-140 **NSPS Y**	Single belt conveyor with associated wet suppression (spray) system and hood covers	N/A	N/A	294c
341-130 **NSPS Y**	Coal/coke crusher (75 tons per hour nominal capacity) with associated wet suppression (spray) system	N/A	N/A	294d
341-200 341-201 **NSPS Y**	Two coal/coke storage silos (1,086 tons, nominal capacity each)	CD341-200 CD341-201	Two filtered bin vents, one per silo	294e
341-230 **NSPS Y**	Conveyor belt with associated wet suppression (spray) system and hood covers	N/A	N/A	294f

[1] These are insignificant sources subject to state enforceable only requirements.

1.3 Fertilizer Production Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
Diammonium/Monoammonium Phosphate Plant No. 2				
505-104 **PSD BACT** **MACT BB**	Residual oil/No. 2 fuel/natural gas-fired dryer	505-123A 505-125 505-148	Dryer duplex cyclone Venturi wet scrubber Packed tower tail gas scrubber with saddle-type packing and demister pads	303
505-107 505-114 505-110 505-143 **PSD BACT** **MACT BB**	Material sizing and handling equipment: Eight process screens Scalping screen Recycle drag conveyor Product bin	505-123C 505-117 505-148	Equipment cyclone Cooler venturi wet scrubber Packed tower tail gas scrubber with saddle-type packing and demister pad	303
505-111 **PSD BACT** **MACT BB**	Cooler	505-123B 505-117 505-148	Cooler duplex cyclone Cooler venturi wet scrubber Packed tower tail gas scrubber with saddle-type packing and demister pad	303
505-103[3] 505-121 **PSD BACT** **MACT BB**	Granulator Reactor	505-118 505-148[3]	Granulator-reactor venturi wet scrubber Packed tower tail gas scrubber with saddle-type packing and demister pad	303

1.3 Fertilizer Production Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
Diammonium/Monoammonium Phosphate Plant No. 3				
511-085 511-086 511-070 **PSD BACT** **MACT BB**	First stage reactor Second stage reactor Granulator	511-107A 511-107B 511-105	Saturation chamber Wet cyclonic scrubber Cyclonic tail gas scrubber	302
511-032 **PSD BACT** **MACT BB**	Residual oil/No. 2 fuel oil/natural gas-fired dryer	511-028 511-103 511-105	Dryer quad cyclone Two-stage dryer wet cyclonic scrubber Cyclonic tail gas scrubber	302
511-025 **PSD BACT** **MACT BB**	Cooler and other miscellaneous material handling points	511-029 511-106 511-105	Cooler dual cyclone Cooler wet cyclonic scrubber Cyclonic tail gas scrubber	302
 511-008 511-009 511-010 511-011 511-016 511-017 511-038 511-039 511-041 511-093 511-094 511-095 511-096 **PSD BACT** **MACT BB**	Process sizing and handling equipment: Chain mill Chain mill Chain mill Chain mill Screen feed drag conveyor, Recycle drag conveyor, Recycle elevator, Dryer elevator, Product elevator, and Double-deck product screen Double-deck product screen Double-deck product screen Double-deck product screen	511-030 511-104 511-105	Dust dual cyclone Dust cyclonic wet scrubber Cyclonic tail gas scrubber	302
Other				
APP-1	Ammonium polyphosphate plant (APP)	N/A	N/A	304
454-200[2]	APP line 2	N/A	N/A	306
DAP23WH1[1]	Warehouse for DAP/MAP 2 or DAP/MAP 3	N/A	N/A	390
DAP2WH2[1]	Warehouse No. 2 for DAP/MAP 2	N/A	N/A	
DAP3WH3	Warehouse No. 3 for DAP/MAP 3	N/A	N/A	
F391[1]	Fertilizer plant fugitives A	N/A	N/A	391
F392[1]	Fertilizer plant fugitives B	N/A	N/A	392
PA Pilot No. 2[1]	Phosphoric acid pilot plant No. 2	116-002	Venturi scrubber	316

1.3 Fertilizer Production Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
Tech Services PP[1]	Technical services pilot plant	N/A	N/A	317
318[1]	Technical services dust collection system – main laboratory	CD318	Bagfilter	318

1. These are insignificant sources subject to state enforceable only requirements
2. Pursuant to application 0700071.17C, this emission source **(ID No. 454-200)** is listed as a 15A NCAC 02Q .0501(b)(2) modification. The Permittee shall file a Title V Air Quality Permit Application on or before 12 months after commencing operation of this emission source in accordance with General Condition NN. The permit shield described in General Condition R does not apply and compliance certification as described in General Condition P is not required.

1.4 Superphosphoric Acid Production Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
FPR-1, FPR-2 and FPR-3 **PSD BACT** (FPR-3 only)	No. 1, No. 2, and No. 3 filter presses	N/A	N/A	305
451-418 and 451-409 **MACT AA**	Superphosphoric acid plant No. 1	451-407	Venturi type wet scrubber	330
453-112 **MACT AA**	No. 2 press product tank			
451-701 and 451-809 **MACT AA**	Superphosphoric acid plant No. 2	451-807	Venturi type wet scrubber	331
453-409 **MACT AA**	No. 3 press product tank			
451-316 and 451-308 **PSD BACT MACT AA**	Superphosphoric acid plant No. 3	451-315	Venturi type wet scrubber	332
451-916 and 451-940 **PSD BACT MACT AA**	Superphosphoric acid plant No. 4			
451-1100 and 451-1200[2] **MACT AA**	Superphosphoric acid plant No. 5	451-1300[2]	Venturi type wet scrubber	333
453-1[1]	No. 1 filter press repulp tank	N/A	N/A	335
453-406	No. 2 and No. 3 filter presses repulp tank	N/A	N/A	336
453-468	Additive storage silo	453-470	Bagfilter	341

1. These are insignificant sources subject to state enforceable only requirements.
2. Pursuant to application 0700071.17C, this emission source and control device **(ID Nos. 451 1100 and 451 1200 and 451-1300)** are listed as a 15A NCAC 02Q .0501(b)(2) modification. The Permittee shall file a Title V Air Quality Permit Application on or before 12 months after commencing operation of this emission source or control device in accordance with General Condition NN. The permit shield described in General Condition R does not apply and compliance certification as described in General Condition P is not required.

1.5 Phosphoric Acid Production Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
Phosphoric Acid Train No. 1				
421-201 **PSD BACT MACT AA**	Reactor train No. 1	421-225	Spray cross-flow packed bed type scrubber	401
421-000 **PSD BACT MACT AA**	Tilting pan (Bird) filter No. 1			
421-325 **PSD BACT MACT AA**	Tilting pan (Bird) filter No. 1 primary vacuum pump installed on primary vacuum separator			
421-327 **PSD BACT MACT AA**	Secondary vacuum pump installed on secondary vacuum separator			
421-223, 421-232 **PSD BACT MACT AA**	Two barometric condenser vacuum pumps			
421-218 **PSD BACT MACT AA**	Barometric condensers hotwell			
421-330 **PSD BACT MACT AA**	Tilting pan (Bird) filter No. 1 seal tanks			
421-225A **PSD BACT MACT AA**	Trench hood			
441-000, 441-021, 441-015 **PSD BACT MACT AA**	Belt filter No. 1 filtrate separator, Spray tower separator Belt filter No. 1 vacuum pump	NA	NA	402
441-031 441-034 **PSD BACT MACT AA**	Belt filter No. 1 seal tanks, Belt filter No. 1 feed hood	442-061	Cyclonic scrubber	403
Phosphoric Acid Train No. 2				
422-201 **PSD BACT MACT AA**	Reactor train No. 2	422-225	Spray cross-flow packed bed type scrubber	404
422-000 **PSD BACT MACT AA**	Tilting pan (Bird) filter No. 2			
422-325 **PSD BACT MACT AA**	Tilting pan (Bird) filter No. 2 primary vacuum pump installed on primary vacuum separator			

1.5 Phosphoric Acid Production Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
422-327 **PSD BACT** **MACT AA**	Secondary vacuum pump installed on secondary vacuum separator			
422-223, 422-232 **PSD BACT** **MACT AA**	Two barometric condensers vacuum pumps			
422-218 **PSD BACT** **MACT AA**	Barometric condensers hotwell			
422-330 **PSD BACT** **MACT AA**	Tilting pan (Bird) filter No. 2 seal tanks			
422-225A **PSD BACT** **MACT AA**	Trench hood			
442-000, 442-021, 442-015 **PSD BACT** **MACT AA**	Belt filter No. 2 filtrate separator, Spray tower separator, Belt filter No. 2 vacuum pump	NA	NA	405
442-034 **PSD BACT** **MACT AA**	Belt filter No. 2 feed hood	442-061	Cyclonic scrubber	403
Phosphoric Acid Train No. 3				
423-201 **PSD BACT** **MACT AA**	Reactor train No. 3	423-225	Spray cross-flow packed bed type scrubber	406
423-000 **PSD BACT** **MACT AA**	Tilting pan (Bird) filter No. 3			
423-325 **PSD BACT** **MACT AA**	Tilting pan (Bird) filter No. 3 primary vacuum pump installed on primary vacuum separator			
423-327 **PSD BACT** **MACT AA**	Secondary vacuum pump installed on secondary vacuum separator			
423-223, 423-232 **PSD BACT** **MACT AA**	Two barometric condensers vacuum pumps			
423-218 **PSD BACT** **MACT AA**	Barometric condensers hotwell			

1.5 Phosphoric Acid Production Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
423-330 **PSD BACT** **MACT AA**	Tilting pan (Bird) filter No. 3 seal tanks			
443-000, 443-021, 443-015 **PSD BACT** **MACT AA**	Belt filter No. 3 filtrate separator, Spray tower separator, Belt filter No. 3 vacuum pump	NA	NA	407
443-034 **PSD BACT** **MACT AA**	Belt filter No. 3 feed hood	443-061	Cyclonic scrubber	408
Phosphoric Acid Train No. 4				
444-031, 444-034 **PSD BACT** **MACT AA**	Belt filter No. 4 seal tanks, Belt filter No. 4 feed hood	443-061	Cyclonic scrubber	408
424-201 **PSD BACT** **MACT AA**	Reactor train No. 4	424-225	Spray cross-flow packed bed type scrubber	409
424-000 **PSD BACT** **MACT AA**	Tilting pan (Bird) filter No. 4;			
424-325 **PSD BACT** **MACT AA**	Tilting pan (Bird) filter No. 4 primary vacuum pump installed on primary vacuum separator			
424-327 **PSD BACT** **MACT AA**	Secondary vacuum pump installed on secondary vacuum separator			
424-223, 424-232 **PSD BACT** **MACT AA**	Two barometric condensers vacuum pumps			
424-218 **PSD BACT** **MACT AA**	Barometric condensers hotwell			
424-330 **PSD BACT** **MACT AA**	Tilting pan (Bird) filter No. 4 seal tanks.			
444-000, 444-021, 444-015 **PSD BACT** **MACT AA**	Belt filter No. 4 filtrate separator, Spray tower separator, Belt filter No. 4 vacuum pump	NA	NA	410

1.5 Phosphoric Acid Production Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
Other				
433-188 (020)[1], 433-001 (030)[1], 433-010 (031)[1], 433-050 (040)[1]	Four phosphoric acid storage tanks	433-056	Venturi scrubber	421
433-020 (032)[1], 433-030 (033)[1], 433-120 (034)[1], 433-100 (060)[1]	Four phosphoric acid storage tanks	433-036	Venturi scrubber	422
433-140[1]	Carbon storage tank			
433-127	Clarifier tank (080)	433-133	Venturi scrubber	423
429-002 421-115 **PSD BACT**	Two phosphate rock jet conveyors on reactor train No. 1	421-103	Bagfilter	430
429-005 422-115 **PSD BACT**	Two phosphate rock jet conveyors on reactor train No. 2	422-103	Bagfilter	431
429-152 429-001 429-004 429-151 **PSD BACT**	Phosphate rock storage silo No. 1 and three transfer points	429-014	Bagfilter	434
429-157 429-158 429-009 429-181 429-183	Phosphate rock storage silo No. 2 and four transfer points	429-164	Bagfilter	435
429-150 **PSD BACT**	Phosphate rock transfer house	429-168	Bagfilter	437
426-156[1] 433-158[1]	Slurry mix tank Clarifier tank (T100)	426-165	Venturi scrubber (operated only during defluorinated acid production)	450
426-154	Diatomaceous earth silo	426-161	Bagfilter	451
ES461, ES462 **MACT AA**	Two fans on phosphoric acid recirculation water cooling tower	N/A	N/A	461, 462
GW01	HF Loading and Storage	HFVS-1 HFPB-1 and HFVS-2 HFVS-2	Venturi scrubber Packed bed scrubber and Venturi scrubber Packed bed scrubber	440 441
GW03-A	HF Train 1	HFVS-1 HFPB-1	Venturi scrubber Packed bed scrubber	440

1.5 Phosphoric Acid Production Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
GW03-B	HF Train 2	HFVS-2 HFPB-2	Venturi scrubber Packed bed scrubber	441
LS-1	Additive storage	LSBF-1	Fabric filter	426
LB-1	Additive bin	LBF-1	Fabric filter	427
CT444	Indirect contact cooling tower	N/A	N/A	428
PAPF	Phosphoric acid plant fugitives	N/A	N/A	491
428-440[1], 428-442[1], 428-445[1], 428-450[1]	Four HFSA tanks	N/A	N/A	492
433-183[1]	Carbon day tank	N/A	N/A	492
426-208, 426-232, 426-200	Process vessel No. 1 Process vessel No. 2 Product tank	426-254	Venturi scrubber	493
426-240	Additive storage silo	426-242	Fabric filter	494
426-220	Filter press No. 1 and filter press No. 2 building vent No. 1	N/A	N/A	495
426-226	Filter press No. 1 and filter press No. 2 building vent No. 2	N/A	N/A	497
FLTR.005.TNK[1] FLTR.010.TNK[1] FLTR.015.TNK[1] FLTR.020.TNK[1] FLTR.025.TNK[1] FLTR.030.TNK[1]	Six (6) filtration process # 1 process tanks	N/A	N/A	470
FLTR.110.TNK[1] FLTR.115.TNK[1] FLTR.120.TNK[1] FLTR.130.TNK[1]	Four (4) filtration process # 2 process tanks	N/A	N/A	471

1. These are insignificant sources subject to state enforceable only requirements.

1.6 Purified Acid Production (PAP) Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
Purified Acid Plant No. 1, Trains 1 and 2				
T24,T224,T324,T346 **MACT AA**	Three scrub acid tanks, discharging through a seal pot	S324 GC-1	Packed bed scrubber Gas chiller system	501
C10, C20, C210, C220 **MACT AA**	Four extraction columns under nitrogen	GC-1	Gas chiller system	
T7, T12, T13, T212, T213, T1, T201, T40, T240, T57 **MACT AA**	Ten tanks under nitrogen			
T54, T44, T244, T34 **MACT AA**	Four tanks with seal pots under nitrogen			
T8, T15, T215, T315, T58 **MACT AA**	Five seal pots under nitrogen			
S53, S43, S243, S253, S33, S5 **MACT AA**	Six separators under nitrogen			
S4 **MACT AA**	Solvent purification unit under nitrogen			
S42, S242, S32, S52, S54 **MACT AA**	Five strippers under nitrogen			
S324 **MACT AA**	Scrubber under nitrogen			
S88[1] T70[1]	Acid defluorination column and acid concentrator	S92	Wet spray tower with a demister pad	502
S118[1] T270[1]	Acid defluorination column and acid concentrator	S292	Wet spray tower with a demister pad	
S288[1] T100[1]	Acid defluorination column and acid concentrator	S122	Wet spray tower with a demister pad	
E180 (CT-1) **MACT AA**	Direct contact cooling tower No. 1	N/A	N/A	510, 511
E181 (CT-2) **MACT AA**	Indirect contact cooling tower No.2	N/A	N/A	512, 513
Purified Acid Plant No. 2, Train 3				
T1024, T1324, T1346 **PSD BACT** **MACT AA**	Two scrub acid storage tanks, discharging through one vent pot	S1324 GC-2	Packed bed scrubber Gas chiller system	503
C1010, C1020 **PSD BACT** **MACT AA**	Two extraction columns under nitrogen	GC-2	Gas chiller system	

1.6 Purified Acid Production (PAP) Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
T1007, T1012, T1013, T1212, T1001, T1040, T1057 **PSD BACT** **MACT AA**	Seven tanks under nitrogen			
T1054, T1044, T1034 **PSD BACT** **MACT AA**	Three tanks/seal pots under nitrogen			
T1008, T1015, T1215, T1315, T1058 **PSD BACT** **MACT AA**	Five seal pots under nitrogen			
S1043, S1053, S1253, S1033, S1005 **PSD BACT** **MACT AA**	Five separators under nitrogen			
S1004 **PSD BACT** **MACT AA**	Solvent purification unit under nitrogen			
S1042, S1032, S1052, S1054 **PSD BACT** **MACT AA**	Four strippers under nitrogen			
S1324 **PSD BACT** **MACT AA**	Scrubber under nitrogen			
S1088 T1070 **PSD BACT**	Acid defluorination column and acid concentrator	S1092[2]	Wet spray tower with a demister pad	504
S1118 T1100 **PSD BACT**	Acid defluorination column and acid concentrator	S1122	Wet spray tower with a demister pad	
E1180 **PSD BACT** **MACT AA**	Direct contact cooling tower No. 1	N/A	N/A	514, 515
E1181 **PSD BACT** **MACT AA**	Indirect contact cooling tower No. 3	N/A	N/A	516, 517
Purified Acid Plant No. 2, Train No. 4				
T1524, T1224,T1546 **PSD BACT** **MACT AA**	Two scrub acid storage tanks, discharging through one vent pot (also used as an emergency vent pot)	S1324 GC-2	Packed bed scrubber Gas chiller system	503

1.6 Purified Acid Production (PAP) Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
C1210, C1220 **PSD BACT** **MACT AA**	Two extraction columns under nitrogen blanket system	GC-2	Gas chiller system	
T1201, T1207, T1213, T1240, T1257 **PSD BACT** **MACT AA**	Five tanks under nitrogen			
T1244 **PSD BACT** **MACT AA**	Tank with seal pots under nitrogen			
T1415, T1515 T1208, T1258 T1546 **PSD BACT** **MACT AA**	Five emergency vent pots			
S1243, S1205 **PSD BACT** **MACT AA**	Two separators under nitrogen			
S1242 **PSD BACT** **MACT AA**	Stripper under nitrogen			
S1204 **PSD BACT** **MACT AA**	Solvent purification unit under nitrogen			
S1288, T1270 **PSD BACT**	Acid defluorination column and acid concentrator	S1292[2]	Wet spray tower with demister pad	506
E1380 **PSD BACT** **MACT AA**	Direct contact cooling tower No. 3	N/A	N/A	518, 519
E1381 **PSD BACT** **MACT AA**	Indirect contact cooling tower No. 4	N/A	N/A	520, 521
Purified Acid Plant Tank Farm				
T3[1], T1003[1]	Two feed acid storage tanks	N/A	N/A	591
T137[1], T1137[1]	Two product under flow acid storage tanks	N/A	N/A	591 593
T67[1], T467[1], T267[1], T1067[1], T76[1], T106[1], T295[1], T1125[1], T276[1], T1106[1], T125[1], T1076[1], T95[1], T1095[1], T1267[1], T1467[1], T1276[1], T1295[1]	Eighteen carbon treated low alkali acid tanks	N/A	N/A	591 593

1.6 Purified Acid Production (PAP) Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
T130[1], T131[1] T132[1], T1130[1] T1131[1], T1132[1] T1133[1]	Seven product low alkali acid storage tanks	N/A	N/A	590
T134A[1], T134B[1] T1134[1], T1134B[1]	Four product high alkali acid storage tanks	N/A	N/A	
T300[1]	Phosbrite/DAB mix tank (blending process)	N/A	N/A	
T301[1]	Dilution tank No. 1 (blending process)	N/A	N/A	
T302[1]	Dilution tank No. 2 (blending process)	N/A	N/A	
T303[1]	Sulfuric acid/DAB storage tank (blending process)	N/A	N/A	
T304[1]	Dilution tank No. 3 (blending process)	N/A	N/A	
T305[1], T306[1]	Two DAB CF mix tanks	N/A	N/A	
T307[1]	Copper carbonate mix tank	N/A	N/A	
T308[1]	One head tank	N/A	N/A	
PAP No. 1 Tank Farm[1]	Purified acid plant No. 1 tank farm fugitives	N/A	N/A	591
PAP Fugitives[1]	Purified acid plant fugitives	N/A	N/A	592
PAP No. 2 Tank Farm[1]	Purified acid plant No. 2 tank farm fugitives	N/A	N/A	593
PAP1load[1,]	PAP loading No. 1	N/A	N/A	594
PAP2load[1,]	PAP loading No. 2	N/A	N/A	595
PAP3load[1]	PAP loading No. 3	NA	NA	596
PAP4load[1]	PAP loading No. 4	NA	NA	597

1. These are insignificant sources subject to state enforceable only requirements.

1.7 Calcium Phosphate Production Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
381.105	Limestone railcar unloading	381.106	Limestone railcar unloading baghouse	759
381.115	No. 1 limestone silo	381.110	No. 1 limestone silo baghouse	760
381.125	No. 2 limestone silo	381.120	No. 2 limestone silo baghouse	761
381.135	No. 3 limestone silo	381.130	No. 3 limestone silo baghouse	762
381.145	Limestone supply weigh hopper	381.150	Limestone supply weigh hopper exhaust filter	765
381.215 381.240	Ultra-low sulfur diesel-fired dryer (54 million Btu per hour) Delumper	381.155 381.160 381.165	No. 1 dryer cyclone No. 2 dryer cyclone Venturi scrubber	774
381.SCREEN	Screening/conveying operations	381.385 381.390	Cage mill dust collector Screen dust collector	777
381.CONVEY	Product conveying operations	381.490	Reclaim dust collector	717
381.FINAL	Final screening operations	381.555	Shipping screener dust collector	783
381.575 381.435	Loadout hopper Conveyor	381.440	Shipping dust collector	718
381.LOAD	Truck/railcar loadout	381.585	Loadout dust collector	754

1. Pursuant to application 0700071.20A, these emission sources **(ID Nos. 381.105, 381.115, 381.125, 381.135, 381.145, 381.215, 381.240, 381.SCREEN, 381.CONVEY, 381.FINAL, 381.575, 381.435, and 381.LOAD)** and control devices **(ID Nos. 381.106, 381.110, 381.120, 381.130, 381.150, 381.155, 381.160, 381.165, 381.385, 381.390, 381.490, 381.555, 381.440, and 381.585)** are listed as a 15A NCAC 02Q .0501(b)(2) modification. The Permittee shall file a Title V Air Quality Permit Application on or before 12 months after commencing operation of any of these emission sources or control devices in accordance with General Condition NN. The permit shield described in General Condition R does not apply and compliance certification as described in General Condition P is not required.

1.8 Shipping Operations

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
Ammonia Unloading[1]	Ammonia railcar and truck unloading	N/A	N/A	601, 602, 603, NH3TRK1. NH3TRK2
Ammonia Tanks[1]	Ammonia storage tanks	N/A	N/A	604, 605
Sulfur Unloading[1,3]	Sulfur railcar unloading	N/A	N/A	610, 611, 612, 613, 614
Railcar Wash 1[1]	Railcar wash station No. 1	N/A	N/A	615
T-002[1] to T-012[1] T-014[1] to T-019[1] T-021[1] to T-029[1] T-044[1] T-050[1] to T-052[1] T-054[1] to T-056[1]	Thirty-three phosphoric acid storage tanks (shipping tank farm)	N/A	N/A	616
453-458[1]	Superphosphoric acid process vessel (shipping tank farm)	N/A	N/A	
453-143[1]	Superphosphoric acid process vessel (shipping tank farm)	N/A	N/A	
497-4-105[1]	Superphosphoric acid and additive mix tank (shipping tank farm)	N/A	N/A	
453-412[1] 453-148[1]	No. 2 filter press feed tank No. 3 filter press feed tank	N/A	N/A	
Filtration Tank[1]	5,000 gallon filtration feed tank	N/A	N/A	
Black Lomag[1]	110,000 gallon black LOMAG tank	N/A	N/A	
Permeate Tank[1]	1,000 gallon permeate tank	N/A	N/A	
Concentrate Tank[1]	1,000 gallon concentrate tank	N/A	N/A	
453-750[2]	LOMAG aging tank # 2	N/A	N/A	
453-800[2]	LOMAG tank # 2	N/A	N/A	
454-240[2]	Filtration feed tank # 2	N/A	N/A	
454-280[2]	Filtration concentration tank # 2	N/A	N/A	
454-300[2]	Filtration permeate tank # 2	N/A	N/A	
558-300[2]	APP – shipping tank # 2	N/A	N/A	
CTP[1]	Concentrate storage pile	N/A	N/A	

1.8 Shipping Operations

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
552-003[1] 552-005[1] 552-050[1]	Three liquid sulfur storage tanks	N/A	N/A	
Railcar Wash 2[1]	Railcar wash station No. 2	N/A	N/A	617
Truckload[1]	Truck loading	N/A	N/A	660
Northload[1]	North rail loading	N/A	N/A	661
Centerload[1]	Center rail loading	N/A	N/A	662
Southload[1]	South rail loading	N/A	N/A	663
APP1load[1]	APP loading No. 1	N/A	N/A	664
APP2load[1]	APP loading No. 2	N/A	N/A	665
APP3load[1,]	APP loading No. 3	N/A	N/A	666
HFSAload[1]	HFSA loading	N/A	N/A	667
DFMGAALoad[1]	Phosphoric acid rail loading station	N/A	N/A	668
Barge1[1]	Barge slip 1 loading	N/A	N/A	672
Barge2[1]	Barge slip 2 loading	N/A	N/A	673

[1] These are insignificant sources subject to state enforceable only requirements.

[2] Pursuant to application 0700071.17C, these emission sources **(ID Nos. 453-750, 453-800, 454-240, 454-280, 454-300, 558-300)** are listed as a 15A NCAC 02Q .0501(b)(2) modification. The Permittee shall file a Title V Air Quality Permit Application on or before 12 months after commencing operation of these emission sources in accordance with General Condition NN. The permit shield described in General Condition R does not apply and compliance certification as described in General Condition P is not required.

[3] Pursuant to application no. 0700071.22B, this emission source **(ID No. Sulfur Unloading)** is listed as a 15A NCAC 02Q .0501(b)(2) modification. The Permittee shall file a Title V Air Quality Permit Application on or before 12 months after commencing operation of this emission source **(ID No. I-SAL)** in accordance with General Condition NN. The permit shield described in General Condition R does not apply and annual compliance certification as described in General Condition P is not required.

1.9 Miscellaneous Sources

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
CP No. 1 **MACT AA**	Cooling pond No. 1	N/A	N/A	910
CP No. 2 **MACT AA**	Cooling pond No. 2	N/A	N/A	914
CP No. 1A **MACT AA**	Cooling pond No. 1A	N/A	N/A	922
GYP Pond No. 5 **NESHAP (61-R)** **MACT AA**	Gypsum stack pond No. 5	N/A	N/A	950A
GYP Pond No. 6 **NESHAP (61-R)** **MACT AA**	Gypsum stack pond No. 6	N/A	N/A	954A
GYP Pond No. 4 **NESHAP (61-R)** **MACT AA**	Gypsum stack pond No. 4	N/A	N/A	955A
957	Mill pond	N/A	N/A	957
958	Recycle lake	N/A	N/A	958
404-814 **MACT ZZZZ**	Diesel-fired emergency engine for backup power at DPW water pumps in mine (1,961 bhp; 1,360 kW)	N/A	N/A	801

SECTION 2 - SPECIFIC LIMITATIONS AND CONDITIONS

2.1 Emission Source(s) and Control Device(s) Specific Limitations and Conditions

The emission sources and associated air pollution control devices and appurtenances listed below are subject to the following specific terms, conditions, and limitations, including the testing, monitoring, recordkeeping, and reporting requirements as specified herein:

2.1.1 Sulfuric Acid Production Area

2.1.1 A Sulfuric Acid Plants

- **Sulfuric acid plant No. 5: Double-absorption sulfuric acid plant (ID No. S-5) controlled by a vertical tube mist eliminator (ID No. 415-934) installed on the final absorbing tower, ep103**
- **Sulfuric acid plant No. 6: Double-absorption sulfuric acid plant (ID No. S-6) controlled by a vertical tube mist eliminator (ID No. 406-129) installed on the final absorbing tower, ep104**
- **Sulfuric acid plant No. 7: Double adsorption sulfuric acid plant (ID No. S-7)controlled by a vertical tube mist eliminator (ID No. 407-258) installed on the final absorbing tower, ep105**

Note: double absorption processes provide control of SO_2 from the sulfuric acid plants.

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Sulfur Dioxide	27 pounds per ton of 100% sulfuric acid produced	15A NCAC 02D .0517
	4 pounds per ton of 100% sulfuric acid produced	15A NCAC 02D .0524 (40 CFR Part 60, Subpart H)
	Less than 40 tons per consecutive 12-month period	15A NCAC 02Q .0317 (Avoidance of 15A NCAC 02D .0530)
	Sulfuric Acid Plant No. 5 (ID No. S-5): 3.2 pounds per ton of 100% sulfuric acid produced (short-term limit/3-hour rolling average) 2.5 pounds per ton of 100% sulfuric acid produced (long-term limit/365-day rolling average) **Sulfuric Acid Plant No. 6 (ID No. S-6):** 3.3 pounds per ton of 100% sulfuric acid produced (short-term limit/3-hour rolling average) 2.5 pounds per ton of 100% sulfuric acid produced (long-term limit/365-day rolling average) **Sulfuric Acid Plant No. 7 (ID No. S-7):** 3.0 pounds per ton of 100% sulfuric acid produced (short-term limit/3-hour rolling average) 1.75 pounds per ton of 100% sulfuric acid produced (long-term limit/365-day rolling average) **See Section 2.4**	40 CFR 51.166 [Consent Decree Civil Action No. 14-707-BAJ-SCR]
Visible Emissions	10 percent opacity	15A NCAC 02D .0524 (40 CFR Part 60, Subpart H)

Pollutant	Limits/Standards	Applicable Regulation
Sulfuric Acid Mist	0.5 pounds per ton of 100% sulfuric acid produced	15A NCAC 02D .0517
	0.15 pounds per ton of 100% sulfuric acid produced	15A NCAC 02D .0524 (40 CFR Part 60, Subpart H and Consent Decree Civil Action No. 14-707-BAJ-SCR)
	For ID No. S-7, only 0.075 pounds per ton of 100% sulfuric acid produced	15A NCAC 02D .0530
	Compliance Assurance Monitoring (CAM) Plan	15A NCAC 02D .0614
Nitrogen Dioxide	5.8 pounds per ton of 100% sulfuric acid produced	15A NCAC 02D .0519
Nitrogen Oxides	**For ID No. S-7, only** 0.6 pounds per ton of 100% sulfuric acid produced	15A NCAC 02D .0530
	Less than 40 tons per consecutive 12-month period	15A NCAC 02Q .0317 (Avoidance of 15A NCAC 02D .0530)
Sulfur Dioxide Particulate Matter Nitrogen Oxides Sulfuric Acid Mist	Recordkeeping and reporting	15A NCAC 02D .0530(u)
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100
Sulfur Dioxide Particulate Matter Nitrogen Oxides	**See Section 2.2 B.1**	15A NCAC 02D .0530(u)
N/A	Submit Title V permit application within one year from the date of beginning operation of applicable sources **See Section 2.2 D.1**	15A NCAC 02Q .0504

1. 15A NCAC 02D .0517: EMISSIONS FROM PLANTS PRODUCING SULFURIC ACID

a. Sulfur dioxide emissions from these sulfuric acid plants shall not exceed 27 pounds per ton of 100% sulfuric acid produced.
b. Sulfuric acid mist emissions from these sources shall not exceed 0.5 pounds per ton of 100% sulfuric acid produced.

Testing/Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]
c. Testing, monitoring, recordkeeping, and reporting shall be conducted in accordance with the New Source Performance Standard provisions of Section 2.1.1 A.3, below. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0517 if records are not maintained or if the results of any test are above the limit in Section 2.1.1 A.1.a or A.1.b, above.

2. 15A NCAC 02D .0519: CONTROL OF NITROGEN DIOXIDE AND NITROGEN OXIDES EMISSIONS

a. The emissions of nitrogen dioxide shall not exceed 5.8 pounds per ton of acid produced from any sulfuric acid manufacturing plant.

Testing [15A NCAC 02Q .0508(f)]
b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.1 A.2.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0519.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is required for nitrogen dioxide emissions from the sulfuric acid manufacturing plants **(ID Nos. S-5, S-6, and S-7)**.

3. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR Part 60, Subpart H, Standards of Performance for Sulfuric Acid Plants)

a. Except as specified in Section 2.1.1 A.3.h, below, the Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524, "New Source Performance Standards," as promulgated in 40 CFR 60, Subpart H, "Standards of Performance for Sulfuric Acid Plants," including Subpart A "General Provisions" for each of the sulfuric acid plants **(ID Nos. S-5, S-6, and S-7)**.

Emission Standards [15A NCAC 02Q .0508(f), 40 CFR 60.82(a), 40 CFR 60.83(a)]

b. Sulfur dioxide emissions from these sources shall not exceed 4 pounds per ton of 100% sulfuric acid produced.
c. Sulfuric acid mist emissions from these sources shall not exceed 0.15 pounds per ton of 100% sulfuric acid produced.
d. Visible emissions shall not be more than 10 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

e. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.1 A.3.b through A.3.d, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.
f. The Permittee shall demonstrate compliance with the sulfuric acid mist emission limit above by testing Sulfuric Acid Plants No. 5, No. 6, and No. 7 **(ID Nos. S-5, S-6, and No. 7)** triennially for sulfuric acid mist.
    i. If Sulfuric Acid Plant No. 5, No. 6, or No. 7 operates for any day at a production rate exceeding that listed for that plant in Section 1.1, then the production rate required during triennial testing for that plant will be at an hourly production rate at least 90 percent of the highest daily rate, as documented by the production records over the last three production years, divided by 24. If a triennial test, at a sufficient production rate as described above, was conducted within two weeks of the date that the highest production rate occurred, then the triennial test for that plant for the following test may use the normal production rate.
    ii. If Sulfuric Acid Plant No. 5, No. 6, or No. 7 does not operate for any day at a production rate exceeding that listed for that plant in Section 1.1, then the production rate required during triennial testing for that plant will be a rate demonstrable by production records to be equal to or greater than the normal production rate of the source.
    iii. The normal production rate (hourly) shall be calculated by dividing the total annual production for a given plant by the number of hours that plant was run during that year. The facility shall establish the production rate, either 90 percent of highest or normal, using the production records over the last three production years.
    iv. If the sulfuric acid mist emissions from a sulfuric acid plant measured during a performance test are greater than or equal to 80 percent of the emission limit given in Section 2.1.1 A.3.c, above, the Permittee shall resume performance testing of that sulfuric acid plant on an annual basis. If the sulfuric acid mist emissions from the sulfuric acid plant measured during two consecutive performance tests are less than 80 percent of the emission limit given in Section 2.1.1 A.3.c, above, the Permittee may resume triennial testing of that sulfuric acid plant.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the required tests are not conducted, records of the tests are not maintained, or if the tests show emissions in exceedance of the applicable limits in Section 2.1.1 A.3.c, above.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

Sulfur Dioxide Requirements

g. The Permittee shall monitor sulfur dioxide emissions from each of the affected sulfuric acid plants **(ID Nos. S-5, S-6, and S-7)** in accordance the following procedures:
    i. Install, calibrate, maintain, and operate continuous monitoring systems for the measurement of sulfur dioxide emissions. The pollutant gas used to prepare calibration gas mixtures under Performance Specification 2 (40 CFR 60, Appendix B) and for calibration checks under 40 CFR 60.13(d), shall be sulfur dioxide (SO_2). Method 8 shall be used for conducting monitoring system performance evaluations under 40 CFR 60.13(c) except that only the sulfur dioxide portion of the Method 8 results shall be used. The span value shall be set at 1000 ppm of sulfur dioxide. [40 CFR 60.84(a)]
    ii. The Permittee shall use the procedures for converting monitoring data into the units of the applicable standard specified in Section 2.4 A.1.p, below, for calculating compliance with the sulfur dioxide limit specified in Section 2.1.1 A.3.b, above. [40 CFR 60.13(i)]

iii. Record all conversion factors and how they were computed, including the input values. [40 CFR 60.84(c)]
iv. The Permittee shall maintain records of all required monitoring data in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in non-compliance with 15A NCAC 02D .0524 if these records are not retained, or if monitored 3-hour average sulfur dioxide emissions exceed the limit in Section 2.1.1 A.3.b, above.

h. The Permittee may install, calibrate, maintain, and operate continuous monitoring systems for the measurement of SO_2, O_2, and CO_2 (if required) in accordance with Section 2.4. The Permitee shall use the procedures for converting monitoring data into the units of the applicable standard specified in Section 2.4 A.1.p. If using this procedure, the Permittee shall maintain records of all required monitoring data in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The Permittee shall be deemed in non-compliance with 15A NCAC 02D .0524 if these records are not retained, or if monitored 3-hour average sulfur dioxide emissions exceed the limit in Section 2.1.1 A.4.b, above. [40 CFR 60.84(d)]

Sulfuric Acid Mist Requirements

i. Sulfuric acid mist emissions from the final absorbers at Sulfuric Acid Plant Nos. 5 through 7 **(ID Nos. S-5 through S-7)** shall be controlled by vertical tube mist eliminators. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the vertical tube mist eliminators are not inspected and maintained.

j. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection;
   iii. The results of any maintenance performed on the vertical tube mist eliminators; and
   iv. Any variance from manufacturer's recommendations, if any, and corrections made.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these records are not maintained.

Visible Emission Requirements

k. To ensure compliance once a month the Permittee shall observe the emission points of the Sulfuric Acid Plants for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. If visible emissions from this source are observed to be above normal, the Permittee shall either:
   i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2601 is below the limit given in 2.1.1 A.3.d, above.

   The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0524 if the required monthly observations are not conducted as required or if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made.

l. The results of the visible emissions monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
   iii. The results of any corrective actions performed.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these records are not maintained.

Start-Up Procedures for Sulfuric Acid Plants [15A NCAC 02Q .0508(f)]

m. Only one sulfuric acid plant at a facility should be in startup mode and burning sulfur at a time. There are times when it will be acceptable for more than one sulfuric acid plant to be in the start-up mode at the same time, provided the following condition is met. It is not acceptable to initiate sulfur burning at one sulfuric acid plant when another plant at the same facility is emitting SO_2 at a rate in excess of the emission limits imposed by the permit or rule, as determined by the CEMs emission rates for the immediately preceding 20 minutes.

n. A plant start-up must be at the lowest practicable operating rate, not to exceed 70 percent of the designed operating rate, until the SO_2 monitor indicates compliance. Because production rate is difficult to measure during start-up, if a more appropriate indicator (such as blower pressure, furnace temperature, gas strength, blower speed, number of sulfur guns operating, etc.) can be documented, tested, and validated, the DAQ will accept this in lieu of directly documenting the operating rate. Implementation requires the development of a suitable list of surrogate parameters to demonstrate and document the reduced operating rate on a plant-by-plant basis. Documentation that the plant is conducting start-up

at the reduced rate is the responsibility of the Permittee. After start-up has begun, the supervisor or superintendent may approve an increase in rate if he judges that will result in faster reduction of emissions.

o. Except for the long-term sulfur dioxide emission limits specified in Section 2.4 A.1, below, sulfuric acid plants are authorized to emit excess emissions from start-up for a period of three consecutive hours provided best operational practices, in accordance with this agreement, to minimize emissions are followed. No plant shall be operated (with sulfur as fuel) out of compliance for more than three consecutive hours. Thereafter, the plant shall be shut down. The plant shall be shut down (cease burning sulfur) if, as indicated by the continuous emission monitoring system, the plant is not in compliance within three hours of start-up. Restart may occur as soon as practicable following any needed repairs or adjustments, provided the corrective action is taken and properly documented. If the only reason for high emissions is low catalyst temperatures, the plant need not be shut down at the end of three hours as long as emissions have been decreasing.

Cold Start-Up Procedures [15A NCAC 02Q .0508(f)]

p. Converter
   i. The inlet and outlet temperature at the first two masses of catalyst shall be sufficiently high to provide immediate ignition when SO_2 enters the masses. In no event shall the inlet temperature of the first mass be less than 800 ˚F or the outlet temperature of the first two masses be less than 700 ˚F. These temperatures are the desired temperatures at the time the use of auxiliary fuel is terminated.
   ii. The gas stream entering the converter shall contain SO_2 at a level less than normal, and sufficiently low to promote catalytic conversion to SO_3.

q. Absorbing Towers. The concentration, temperature, and flow of circulating acid shall be as near to normal conditions as reasonably can be achieved. In no event shall the concentration be less than 96 percent sulfuric acid.

Warm Restart Procedures [15A NCAC 02Q .0508(f)]

r. Converter. The inlet and outlet temperatures of the first two catalyst masses should be sufficiently high to ensure conversion. One of the following three conditions must be met:
   i. The inlet and outlet temperatures of the first two catalyst masses must be at a minimum of 700 ˚F; or
   ii. Two of the four inlet and outlet temperatures must be greater than or equal to 780 ˚F; or
   iii. The inlet temperature of the first catalyst must be greater than or equal to 600 ˚F and the outlet temperature greater than or equal to 800 ˚F. Also, the inlet and outlet temperatures of the second catalyst must be greater than or equal to 700 ˚F.

   Failure to meet one of the above conditions requires use of cold start-up procedures, unless the Superintendent (or Acting Superintendent) approves otherwise. To allow for technological improvement of individual plant conditions, alternative conditions will be considered by the Department in appropriate cases.

s. Absorbing Towers. The concentration, temperature, and flow of circulating acid shall be as near to normal conditions as reasonably can be achieved. In no event shall the concentration be less than 96 percent sulfuric acid.

Reporting [15A NCAC 02Q .0508(f)]

t. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.1 A.3.g through A.3.l above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD) BACT

a. For Sulfuric Acid Plant 7 **(ID No. S-7)** the following table shall describe the emission standards:

Emission Source	Pollutant	Control Method	BACT Emission Limit(1)
Sulfuric Acid Plant No. 7 **(ID No. S-7)**	Nitrogen oxides	None	0.6 lb/ton of 100% acid produced
Sulfuric Acid Plant No. 7 **(ID No. S-7)**	Sulfuric acid mist	Vertical tube mist eliminator	0.075 lb/ton of 100% acid produced

(1) Calculated as a calendar year average.

DAQ withholds the option to revise the BACT limitation listed above based on future stack testing. Any increase in the allowable BACT limitation would require permitting pursuant to 15A NCAC 02D .0530.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.1 A.4.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

c. The Permittee shall demonstrate compliance with the sulfuric acid mist emission limit above by conducting stack tests at Sulfuric Acid Plant No. 7 **(ID No. S-7)** in accordance with the NSPS testing requirements pursuant to 40 CFR 60.85(b)(1) through (4), or an approved permit protocol, and as provided in Section 2.1.1 A.3.f. of this permit. All testing shall be conducted in accordance with General Condition JJ. In the event that more than one compliance test is conducted in a calendar year, compliance with the above standards shall be based on the average emission rate from all tests conducted during the compliance period. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the required tests are not conducted, records of the tests are not maintained, or if the tests show emissions (on a calendar year average) in exceedance of the applicable limits in Section 2.1.1 A.4.a, above.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

d. The Permittee shall comply with the inspection and maintenance requirements of Section 2.1.1 A.3.i and A.3.j, above, the vertical tube mist eliminator. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these requirements are not met.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.1 A.4.d above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 02D .0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF REQUIREMENTS OF PSD

a. The Permittee has used projected actual emissions to avoid applicability of prevention of significant deterioration requirements pursuant to application 0700071.15C for the Sulfuric Acid Plant Modification project consisting of the No. 5 Sulfuric Acid Plant **(ID No. S-5)**, the No. 6 Sulfuric Acid Plant **(ID No. S-6)**, and the No. 7 Sulfuric Acid Plant **(ID No. S-7)**. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the requirements in Section 2.1.1 A.5.b, below.

Monitoring/Recordkeeping/Reporting [15A NCAC 02D .0530(u) and 02Q .0308]

b. The Permittee shall perform the following:

i. The Permittee shall maintain records of annual SO_2, PM, PM_{10}, $PM_{2.5}$, NO_X, and sulfuric acid mist (SAM) emissions from the Nos. 5, 6, and 7 Sulfuric Acid Plants **(ID Nos. S-5, S-6, and S-7)** in tons per year, on a calendar year basis related to Sulfuric Acid Plant Modification Project, for five years following resumption of regular operations after the change is made.

ii. The Permittee shall submit a report to the director within 60 days after the end of each calendar year during which these records must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a-c).

iii. The Permittee shall make the information documented and maintained under this condition available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).

iv. The reported actual emissions (post-construction emissions) for each of the five calendar years will be compared to the projected actual emissions (pre-construction projection) as included below:

Pollutant	Projected Actual Emissions from Nos. 5, 6, and 7 Sulfuric Acid Plants, combined* (tons per year)
SO_2	5,101
PM	175
PM_{10}	175
$PM_{2.5}$	175
NO_X	250
SAM	175

* These projections are not enforceable limitations. If projected emissions are exceeded, consistent with 15A NCAC 02D .0530, the Permittee shall include, in its annual report, an explanation as to why the actual rates exceeded the projection.

6. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING – SAM

a. Per 40 CFR 64 and 15A NCAC 02D .0614, the Permittee shall comply with the following compliance assurance monitoring (CAM) requirements.

Background

b. Emission Units:
Sulfuric acid plants Nos. 5, 6, and 7 **(ID Nos. S-5, S-6, and S-7)**

c. Applicable Regulation, Emission Limit, and Monitoring Requirements
   i. Regulation:
      (A) 15A NCAC 02D .0517
      (B) 15A NCAC 02D .0524, 40 CFR Part 60, Subpart H, and Consent Decree Civil Action No. 14-707-BAJ-SCR
      (C) 15A NCAC 02D .0530
   ii. Emission limits:
      (A) 0.5 pounds of SAM per ton of 100% sulfuric acid produced (15A NCAC 02D .0517 only)
      (B) 0.15 pounds of SAM per ton of 100% sulfuric acid produced(15A NCAC 02D .0524, 40 CFR Part 60, Subpart H, and Consent Decree Civil Action No. 14-707-BAJ-SCR)
      (C) 0.075 pounds of SAM per ton of 100% sulfuric acid produced **(ID No. S-7 only)** (15A NCAC 02D .0530)
   iii. Control Technology:
      Vertical tube mist eliminators **(ID Nos. 415-934, 406-129, and 407-258, respectively)** installed on the final absorbing towers.

Monitoring Approach

d. The key elements of the monitoring approach for SAM, including parameters to be monitored, parameter ranges and performance criteria, are presented in the following table. The Permittee may use either indicator as appropriate. However, on any day in which one indicator is used, the other indicator may not also be utilized.

Measure	Indicator 1 – Visible Emissions	Indicator 2 – Differential Pressure Drop
I. Indicator Measuring approach	A visible emissions (VE) observation at the exit of each sulfuric acid plant stack **(ep103, 104 and 105)** will be conducted daily for visible emissions above normal.	A daily instantaneous differential pressure reading across the control device
II. Indicator Range	An excursion is defined as the presence of above normal emissions. The Permittee shall take appropriate action to correct the above-normal emissions as soon as possible. The Permittee shall take corrective action such as the following: i. Take appropriate action to correct the above-normal emissions as soon as practicable and verify that the corrective action returned visible emissions to within normal; or ii. Demonstrate that opacity does not exceed 10 percent opacity standard in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes. An excursion will trigger corrective action to return emissions to normal as soon as possible and recordkeeping and reporting in accordance with Section 2.1.1 A.6.e below.	An excursion is defined as an instantaneous differential pressure reading outside the following indicator range: **Indicator range is To Be Determined** Excursion triggers corrective action and recordkeeping and reporting in accordance with Section 2.1. A.6.e below.
	The Quality Improvement Plan (QIP) threshold is excursions occurring on five days (consecutive or non-consecutive days) in a six-month reporting period.	

Measure	Indicator 1 – Visible Emissions	Indicator 2 – Differential Pressure Drop
III. Performance Criteria		
Data Representativeness	Visible emissions shall be observed at the emissions point at the stack exit downstream of each vertical tube mist eliminator **(ID Nos. 415-934, 406-129, and 407-258)** exhaust.	Pressure drop measured across the mist eliminator (wire mesh/demister pad).
QA/QC Practices and Criteria	Method 9 observations are conducted by a certified Reference Method 9 observer.	Pressure gauge and transducer (if equipped with transducer) calibration shall be performed according to manufacturer recommendations (or standard industry practice if there are no manufacturer recommendations). Pressure taps checked for plugging during calibration.
Monitoring frequency	A VE observation shall be performed daily, when operating.	Pressure drop is measured continuously.
Data Collection Procedures	The VE observation is recorded by the observer.	Pressure drop is manually recorded daily.
Averaging Period	N/A	N/A

Recordkeeping and Reporting [15A NCAC 02Q .0508(f), 40 CFR 64.9]

e. The Permittee shall comply with the recordkeeping requirements of 40 CFR 64.9(b) and submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The reports shall comply with the reporting requirements of 40 CFR 64.9(a) and include, at a minimum, the following information, as applicable:
   i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
   ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
   iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the Permittee shall include, in the next summary report, documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances.

7 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS
for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530(g) for major modifications, increases in emissions of sulfur dioxide (SO_2) and nitrogen oxide (NOx) from the sulfuric acid plants **(ID Nos. S-5, S-6, and S-7)** resulting from the Sulfuric Acid Project as specified in permit application no. 0700071.22B shall be less than the following emissions limits:
   i. 40 tons of SO_2 per consecutive 12-month period; and
   ii. 40 tons of NO_X per consecutive 12-month period.

Testing [15A NCAC 02Q .0308]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ.

Monitoring/Recordkeeping [15A NCAC 02Q .0308]

c. The Permittee shall keep monthly records of sulfuric acid produced (in tons) in each of the sulfuric acid plants **(ID Nos. S-5, S-6, and S-7)**. Records of the amount of sulfuric acid produced shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request.

d. The Permittee shall keep monthly records of sulfuric acid loaded (in tons) in the sulfuric acid loading station **(ID No. I-SAL)**. Records of the amount of sulfuric acid loaded shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request.

SO_2 Emissions

e. The Permittee shall install, calibrate, maintain, test, and operate CEMS for SO_2 on each sulfuric acid plant **(ID Nos. S-5, S-6, and S-7)** in accordance with Section 2.4 A.1 below.

f. The Permittee shall comply with the SO_2 emission limitation in Section 2.1.1 A.7.a above by using the following equations:

$$\sum_{i=1}^{12} SO_{2_{total,i}} < 40\ tons\ per\ consecutive\ 12-month\ period2$$

$$SO_{2_{total,i}} = EF_{SO2,overall,i} * SAL_i$$

$$EF_{SO2,overall,i} = \frac{\left(E_{SO2,S-5,i} + E_{SO2,S-6,i} + E_{SO2,S-7,i}\right)}{\left(P_{S-5,i} + P_{S-6,i} + P_{S-7,i}\right)}$$

Where:

$SO_{2,total,i}$ = total SO_2 emissions in calendar month i, in tons

$EF_{SO2,overall,i}$ = overall SO_2 emission factor in calendar month i, in pounds of SO_2 emissions per ton sulfuric acid produced

SAL_i = total amount of sulfuric acid loaded in the loading station **(ID No. I- SAL)** in calendar month i, in tons

$E_{SO2,S-5,i}$ = emissions of SO_2 as measured by the CEMS for Sulfuric Acid Plant No. 5 **(ID No. S-5)**, in calendar month i, (lb)

$E_{SO2,S-6,i}$ = emissions of SO_2 as measured by the CEMS for Sulfuric Acid Plant No. 6 **(ID No. S-6)**, in calendar month i, (lb)

$E_{SO2,S-7,i}$ = emissions of SO_2 as measured by then CEMS for Sulfuric Acid Plant No. 7 **(ID No. S-7)**, in calendar month i, (lb)

$P_{S-5,i}$ = total amount of sulfuric acid produced in Sulfuric Acid Plant No. 5 **(ID No. S-5)** in calendar month i, (tons)

$P_{S-6,i}$ = total amount of sulfuric acid produced in Sulfuric Acid Plant No. 6 **(ID No. S-6)** in calendar month i, (tons)

$P_{S-7,i}$ = total amount of sulfuric acid produced in Sulfuric Acid Plant No. 7 **(ID No. S-7)** in calendar month i, (tons)

g. Calculations of SO_2 emissions per month shall be made on a calendar month basis. Calculations and the total amount of SO_2 emissions for the previous month shall be recorded monthly in a logbook (written or electronic format) on-site and made available to an authorized representative upon request.

NO_x Emissions

h. The Permittee shall comply with the NO_X emission limitation in Section 2.1.1 A.7.a above by using the following equations:

$$\sum_{i=1}^{12} NOx_{total,i} < 40\ tons\ per\ consecutive\ 12-month\ period$$

$$NOx_{total,i} = EF_{NOx,weighted,i} * SAL_i$$

$$EF_{NOx,weighted,i} = \frac{\left[\left(EF_{NOx,S-5,i} * P_{S-5,i}\right) + \left(EF_{NOx,S-6,i} * P_{S-6,i}\right) + \left(EF_{NOx,S-7,i} * P_{S-7,i}\right)\right]}{\left(P_{S-5,i} + P_{S-6,i} + P_{S-7,i}\right)}$$

Where:

$NO_{X,total,i}$ = total NO_X emissions in calendar month i, in tons

$EF_{NOx,weighted,i}$ = weighted NO_X emission factor in calendar month i, in pounds of NO_X emissions per ton sulfuric acid produced

SAL_i = total amount of sulfuric acid loaded in the loading station **(ID No. I- SAL)** in calendar month i, in tons

$EF_{NOx,S-5,i}$ = NO_X emission factor for Sulfuric Acid Plant No. 5 **(ID No. S-5)** developed from testing conducted in accordance with Section 2.1.1 A.2.b above, in calendar month i, in pounds of NO_X emissions per ton sulfuric acid produced

$EF_{NOx,S-6,i}$ = NO_X emission factor for Sulfuric Acid Plant No. 6 **(ID No. S-6)** developed from testing conducted in accordance with Section 2.1.1 A.2.b above, in calendar month i, in pounds of NO_X emissions per ton sulfuric acid produced

$EF_{NOx,S-7,i}$ = NO_X emission factor for Sulfuric Acid Plant No. 7 **(ID No. S-7)** developed from testing conducted in accordance with Section 2.1.1 A.4.c above, in calendar month i, in pounds of NO_X emissions per ton sulfuric acid produced

$P_{S-5,i}$ = total amount of sulfuric acid produced in Sulfuric Acid Plant No. 5 **(ID No. S-5)** in calendar month i, in tons

$P_{S-6,i}$ = total amount of sulfuric acid produced in Sulfuric Acid Plant No. 6 **(ID No. S-6)** in calendar month i, in tons

$P_{S-7,i}$ = total amount of sulfuric acid produced in Sulfuric Acid Plant No. 7 **(ID No. S-7)** in calendar month i, in tons

i. Calculations of NO_X emissions per month shall be made on a calendar month basis. Calculations and the total amount of NO_X emissions for the previous month shall be recorded monthly in a logbook (written or electronic format) onsite and made available to an authorized representative upon request.

Reporting [15A NCAC 02Q .0308]

j. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.1 A.7.c through A7.i above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the monthly NO_X and SO_2 emissions for the previous 17 months. The emissions must be calculated for each of the 12-month periods over the previous 17 months. All instances of deviations from the requirements of this permit must be clearly identified.

2.1.1 B Auxiliary Boiler – No. 2 fuel oil-fired (ID No. BW), ep110

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.27 pounds per million Btu	15A NCAC 02D .0503
Visible Emissions	20 percent opacity	15A NCAC 02D .0524 (40 CFR Part 60, Subpart Dc)
Sulfur Dioxide	Fuel oil sulfur content limit of 0.5 percent	15A NCAC 02D .0524 (40 CFR Part 60, Subpart Dc)
	Less than 40 tons per consecutive 12-month period	15A NCAC 02Q .0317 (Avoidance of 15A NCAC 02D .0530)
Nitrogen Oxides	Less than 40 tons per consecutive 12-month period	15A NCAC 02Q .0317 (Avoidance of 15A NCAC 02D .0530)
Hazardous Air Pollutants	Best Combustion Practices	15A NCAC 02D .1111 (40 CFR Part 63, Subpart DDDDD)

1. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of No. 2 fuel oil that are discharged from this source into the atmosphere shall not exceed 0.27 pounds per million Btu heat input.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.1 B.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is required for particulate emissions from the firing of No. 2 fuel oil in this source.

2. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR Part 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units)

a. For this boiler (**ID No. BW**), the Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524, "New Source Performance Standards (NSPS)," as promulgated in 40 CFR Part 60 Subpart Dc, "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units" including Subpart A, "General Provisions."

Emission Limitations [15A NCAC 02Q .0508(b)]

b. The following emission limitations apply:
   i. The Permittee shall not combust oil in the boiler that contains greater than 0.5 weight percent sulfur. [40 CFR 60.42c(d)]
   ii. Visible emissions from the boiler when firing No. 2 fuel oil shall not be more than 20 percent opacity when averaged over a six-minute period, except for one six-minute period per hour of not more than 27 percent opacity. [40 CFR 60.43c(c)]
   iii. The opacity standard in Section 2.1.1 B.2.b.ii above applies at all times when firing No. 2 fuel oil, except during periods of startup, shutdown, or malfunction. [40 CFR 60.43c(d)]
   iv. The SO_2 emission standard in Section 2.1.1 B.1.b.i above applies at all times, including periods of startup, shutdown, and malfunction. [40 CFR 60.43c(i)]

Testing [15A NCAC 02Q .0508(b)]

c. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.1 B.2.b.i or B.2.b.ii above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

d. The Permittee shall conduct a performance test using Method 9 of Appendix A-4 of 40 CFR Part 60 and in accordance with General Condition JJ to demonstrate compliance with the opacity limit in Section 2.1.1 B.2.ii, above, and as follows. [40 CFR 60.47c(a)]
   i. The Permittee shall conduct subsequent Method 9 of Appendix A-4 of 40 CFR Part 60 performance tests according to the schedule specified in Section 2.1.1 B.2.g, below.
   ii. The observation period for Method 9 of Appendix A-4 of 40 CFR Part 60 performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these testing requirements are not met or the results are above the limits in Section 2.1.1 B.2.b.i or B.2.b.ii above.

e. To demonstrate compliance with the sulfur limit in Section 2.1.1 B.2.b.i above, the performance test shall consist of the certification from the fuel supplier, according to Section 2.1.1 B.2.f below. [40 CFR 60.44c(h)] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these testing requirements are not met or the results are above the limits in Section 2.1.1 B.2.b.i above.

Fuel Sulfur Monitoring [15A NCAC 02Q .0508(f)]

f. The Permittee shall retain a copy of the fuel supplier certification for any oil fired in this boiler. The fuel supplier certification shall include the following information:
   i. The name of the oil supplier;
   ii. A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c; and
   iii. The sulfur content or maximum sulfur content of the oil.

   [40 CFR 60.42c(h)(1), 60.46c(e), 60.48c(f)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these monitoring requirements are not met or the sulfur content of the oil exceeds the limit in Section 2.1.1 B.2.b.i above.

Opacity Monitoring [15A NCAC 02Q .0508(f)]

g. The Permittee shall comply with visible emissions monitoring according to the following:
   i. The Permittee shall conduct subsequent Method 9 performance tests using the applicable schedule in paragraphs (A) through (D) below, as determined by the most recent Method 9 performance test results.
      (A) If no visible emissions are observed, a subsequent Method 9 performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted;
      (B) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted;
      (C) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted; or
      (D) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.
      (E) The observation period for Method 9 performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.

   [40 CFR 60.47c(a)(1)]

   ii. If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 performance test, the owner or operator may, as an alternative to performing subsequent Method 9 performance tests, elect to perform subsequent monitoring using Method 22 according to the procedures specified in paragraphs (A) and (B) below.
      (A) The Permittee shall conduct 10-minute observations (during normal operation) each operating day the affected facility fires No. 2 fuel oil using Method 22 and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (i.e., 30 seconds per 10-minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10-minute observation, immediately conduct a 30-minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (i.e., 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (i.e., 90 seconds) or conduct a new Method 9 performance test using the procedures in Section 2.1.1 B.2.g.i. above within 45 calendar days.
      (B) If no visible emissions are observed for 10 operating days during which No. 2 fuel oil is fired, observations can be reduced to once every 7 operating days during which No. 2 fuel oil is fired. If any visible emissions are observed, daily observations shall be resumed.

      [40 CFR 60.47c(a)(2)]

   iii. If the source is not operating on the required date for the Method 9 performance test, the performance test shall be conducted the next time the source is operated for three or more daylight hours. [40 CFR 60.8(d)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these opacity monitoring requirements are not met or the opacity exceeds the limit in Section 2.1.1 B.2.b.ii above.

Recordkeeping [15A NCAC 02Q .0508(f))]

h. The following recordkeeping requirements apply:
   i. The Permittee shall record and maintain records of the amounts of each fuel fired during each month. [40 CFR 60.48c(g)(2)]
   ii. The Permittee shall maintain records of No. 2 fuel oil supplier certifications as shown in Section 2.1.1 B.2.f above. [40 CFR 60.48c(e)(11), (f)(1)]
   iii. The Permittee shall keep the following opacity monitoring records:
      (A) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the following:
         (1) Dates and time intervals of all opacity observation periods;
         (2) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and
         (3) Copies of all visible emission observer opacity field data sheets;
      (B) For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the following:
         (1) Dates and time intervals of all visible emissions observation periods;

(2) Name and affiliation for each visible emission observer participating in the performance test;
(3) Copies of all visible emission observer opacity field data sheets; and
(4) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

[40 CFR 60.48c(c)(1) and (2)]

iv. The Permittee shall maintain records of any occurrence and duration of any startup, shutdown, or malfunction in the operation the boiler. [40 CFR 60.7(b)]

v. All records required shall be maintained by the Permittee for a period of two years following the date of such record. [40 CFR 60.48c(i)]

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these recordkeeping requirements are not met.

Reporting/Notifications [15A NCAC 02Q .0508(f)]

i. The Permittee shall submit:

i. a semiannual summary report postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. [40 CFR 60.48c(j)] All instances of noncompliance from the requirements of this permit and excess emissions must be clearly identified. The summary report shall include the following information:
(A) Fuel supplier certification(s), as described in Section 2.1.1 B.2.f above; and
(B) A certified statement signed by the owner or operator that the records of fuel supplier certification(s) submitted represents all of the No. 2 fuel oil fired during the semiannual period.[60.48c(e)(11)]

ii. at least 30 days advance notice of a performance test conducted pursuant to Section 2.1.1 B.2.g to the Regional Supervisor, DAQ to afford the DAQ the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, the Permittee shall notify the Regional Supervisor as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Regional Supervisor by mutual agreement. [40 CFR 60.8(d), 60.7(a)(6)]

iii. a report containing the results of subsequent opacity performance test conducted pursuant to Section 2.1.1 B.2.g above postmarked no later than 30 days after completion of performance tests . [40 CFR 60.48c(b) and 15A NCAC 02Q .0508(i)(16)]

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these reporting requirements are not met.

3. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart DDDDD, Major Source Industrial, Commercial, and Institutional Boilers and Process Heaters)

Applicability [40 CFR 63.7485, 63.7490(d), 63.7499(q) and (u)]

a. For this source (**ID No. BW**) (*i.e., existing sources designed to burn light liquid fuel with a heat input capacity of 10 million Btu per hour or greater with oxygen trim system*), the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart DDDDD "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" and Subpart A "General Provisions."

Definitions and Nomenclature

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.7575 shall apply.

40 CFR Part 63 Subpart A General Provisions

c. The Permittee shall comply with the requirements of 40 CFR 63 Subpart A General Provisions according to the applicability of Subpart A to such sources as identified in Table 10 to Subpart DDDDD. [40 CFR 63.7565]

Compliance Date [40 CFR 63. 7510(e), 63.56(b)]

d. The Permittee shall:
   i. Complete the initial tune up and the one-time energy assessment in accordance with Section 2.1.1 B.3.l and B.3.m below, respectively, no later than May 20, 2019. The initial tune-up was completed on May 19, 2019, and the one-time energy assessment was completed on May 20, 2019.
   ii. Complete the initial compliance requirements in Section 2.1.1 B.3.i below no later than November 16, 2019 and according to the applicable provisions in 40 CFR 63.7(a)(2). The initial performance test was conducted on March 4 through 6, 2019.

   These requirements have been met.

General Compliance Requirements [15A NCAC 02Q .0508(b)]

e. The following general compliance requirements apply:
   i. At all times the affected unit(s) is operating, the Permittee shall be in compliance with the emission standards in Section 2.1.1 2.B.3.f below, except during periods of startup and shutdown. During startup and shutdown, the Permittee shall comply only with items 5 and 6 of Table 3 of Subpart DDDDD. [40 CFR 63.7505(a) and 63.7500(f)]
   ii. At all times, then Permittee shall operate and maintain any affected source (as defined in 40 CFR 63.7490), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.7500(a)(3)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these general compliance requirements are not met.

Emission Limits [15A NCAC 02Q .0508(b)]

f. The affected units shall meet the following emission limits:

Pollutant	Emission Limit
Hydrochloric Acid(HCl)	1.1E-03 lb per MMBtu of heat input
Mercury (Hg)	2.0E-06 lb per MMBtu of heat input (prior to October 6, 2025) 7.3E-07 lb per MMBtu of heat input (on or after October 6, 2025)
Carbon monoxide (CO)	130 ppm by volume on a dry basis corrected to 3 percent oxygen
Filterable Particulate Matter(PM) or Total Suspended Metals (TSM)	7.9E-03 lb per MMBtu of heat input or 6.2E-05 lb per MMBtu of heat input

[40 CFR 63.7500(a)(1), Table 2 and Table 15 to Subpart DDDDD]

Testing [15A NCAC 02Q .0508(f)]

g. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test(s) are above the emission limits given in Section 2.1.1 B.3.f above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

Notifications [15A NCAC 02Q .0508(f)]

h. The Permittee shall submit the following notifications:
   i. The Permittee shall submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin. [40 CFR 63.7545(d)]
   ii. For the initial compliance demonstration for each affected source, the Permittee shall submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all affected sources at the facility [40 CFR63.9(h)(2)(ii), 63.10(d)(2), 63.7545(e)] The Notice of Compliance Status was received on July 17, 2019. This requirement has been met.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these notification requirements are not met.

Initial compliance requirements [15A NCAC 02Q .0508(f)]

i. The Permittee shall demonstrate compliance with the emission limits in Section 2.1.1 B.3.f above by conducting initial performance test(s) and fuel analyses, establishing operating limits and conducting continuous monitoring system (CMS) evaluation(s) as necessary according to 40 CFR 63.7510, 63.7525 and 63.7530. The initial performance test was conducted on March 4 through 6, 2019. This requirement has been met.

Subsequent compliance requirements [15A NCAC 02Q .0508(f)]

j. The following compliance requirements apply:
   i. The Permittee shall conduct subsequent performance tests and fuel analyses as necessary according to 40 CFR 63.7515.
   ii. If the affected boiler or process heater combusts ultra-low sulfur liquid fuel, the Permittee does not need to conduct further performance tests (stack tests or fuel analyses) if the pollutants measured during the initial compliance performance tests meet the emission limits in Section 2.1.1 B.3.f above providing the Permittee demonstrates ongoing compliance with the emissions limits by monitoring and recording the type of fuel combusted on a monthly basis. [40 CFR 63.7515(h)]
   iii. If the Permittee intends to use a fuel other than ultra-low sulfur liquid fuel, natural gas, refinery gas, or other gas 1 fuel, the Permittee shall conduct new performance tests within 60 days of burning the new fuel type. [40 CFR 63.7515(h)]
   iv. The Permittee shall demonstrate continuous compliance with each emission limit and operating limit that applies according to 40 CFR 63.7540.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these compliance requirements are not met.

Monitoring Requirements and Operating Limits [15A NCAC 2Q .0508(f)]

k. The following operating limits and monitoring requirements apply: The Permittee shall:
   i. install, operate and maintain a CMS for operating load and maintain the 30-day rolling average operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during the most recent performance test. [40 CFR 63.7500(a)(2), Table 4 to Subpart DDDDD]. The 30-day rolling average operating load shall not exceed 100.4 MMBtu/hr.
   ii. install, operate, and maintain an oxygen trim system, as defined in 40 CFR 63.7575 with the oxygen level set no lower than the lowest hourly average oxygen concentration measured during the most recent CO performance test. [40 CFR 63.7525(a)(7)].
   iii. meet the requirements for all monitoring systems (CMS) as applicable according to 40 CFR 63.7525(d).
   iv. develop a site-specific monitoring plan according to the requirements in 40 CFR 63.7505(d)(1) through (4) for the use of any CMS. [40 CFR 63.7505(d)].
   v. meet the operating limits as follows:
      (A) Operation above the maximum or below the minimum operating limits shall constitute a deviation of the established operating limits above except during performance tests conducted to determine compliance with the emission limits or to establish new operating limits.
      (B) Operating limits must be confirmed or reestablished during performance tests.

   [40 CFR 63.7540(a)(1)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these monitoring requirements and operating limits are not met.

Work Practice Standards [15A NCAC 02Q .0508(b)]

l. The following work practice standards apply:
   i. The Permittee shall conduct a tune-up of the boiler **(ID No. BW)** every five years as specified below. The Permittee shall conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.
      (A) As applicable, inspect the burner, and clean or replace any components of the burner as necessary. The Permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled or unscheduled unit shutdown, but the burner must be inspected at least once every 72 months.
      (B) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
      (C) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown);

(D) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_X requirement to which the unit is subject; and
(E) Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
[40 CFR 63.7500(a), 63.7540(a)(10), (a)(12)]

ii. Each tune-up shall be conducted no more than 61 months after the previous tune-up. [40 CFR 63.7515(d)]
iii. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [40 CFR 63.7540(a)(13), 63.7515(g)]

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these work practice requirements are not met.

Energy Assessment Requirements [15A NCAC 02Q .0508(f)]

m. The Permittee shall have a one-time energy assessment performed by a qualified energy assessor. [40 CFR 63.7500(a)(1), Table 3 to MACT Subpart DDDDD] The one-time energy assessment was completed on May 20, 2019. This requirement has been met.

Recordkeeping Requirements [15A NCAC 02Q .0508(f)]

n. The following recordkeeping requirements apply. The Permittee shall:
i. keep a copy of each notification and report submitted to comply with Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status, or semiannual compliance report that has been submitted. [40 CFR 63.7555(a)(1), 63.10(b)(2)(xiv)]
ii. keep records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations. [40 CFR 63.10(b)(2)(viii)]
iii. maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (A) through (C) below:
(A) the concentrations of carbon monoxide in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
(B) a description of any corrective actions taken as a part of the tune-up; and
(C) the type and amount of fuel used over the 12 months prior to the annual adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.
[40 CFR 63.7540(a)(10)(vi)]
iv. for each CMS, keep records according to paragraphs (b)(1) through (5) of 40 CFR 63.7555 as applicable.
v. keep records required in Table 8 of MACT Subpart DDDDD including records of all monitoring data and calculated averages for applicable operating limits, such as opacity, pressure drop, pH, and operating load, to show continuous compliance with each emission limit and operating limit that applies.
vi. keep records of monthly fuel use by each boiler or process heater, including the type(s) of fuel and amount(s) used. [40 CFR 63.7555(d)(1)]
vii. if ultra-low sulfur liquid fuel is used to comply with Section 2.1.1 B.3.j.ii above, retain a copy of the fuel supplier certification for any oil fired in the boiler. The fuel supplier certification shall include the following information:
(A) The name of the oil supplier;
(B) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c; and
(C) The sulfur content or maximum sulfur content of the oil.
viii. keep the records in paragraphs (d)(2) through (13) of 40 CFR 63.7555, as applicable.
ix. keep:
(A) maintain records in a form suitable and readily available for expeditious review;
(B) keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record; and
(C) keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The Permittee can keep the records offsite for the remaining 3 years.
[40 CFR 63.7560, 63.10(b)(1)]

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these recordkeeping requirements are not met.

Reporting Requirements [15A NCAC 02Q .0508(f)]

o. The following reporting requirements apply:
   i. The Permittee shall submit a compliance report to the DAQ on a semi-annual basis, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June.[40 CFR 63.7550(a) and (b)]
   ii. The compliance reports shall also be submitted electronically to the EPA via the procedures in 40 CFR 63.7550(h)(3).
   iii. The compliance report shall contain:
      (A) The information in 40 CFR 63.7550(c) as applicable.
      (B) For each deviation from an emission limit or operating limit, the report shall contain the information in 40 CFR 63.7550(d) and (e) as applicable.
   iv. Within 60 days after the date of completing each performance test (defined in 40 CFR 63.2) required by MACT Subpart DDDDD, including any associated fuel analyses and/or CEMS performance evaluation (defined in 40 CFR 63.2), the Permittee shall submit the results to the DAQ and also directly to the EPA electronically via the procedures in 40 CFR 63.7550(h)(1) or (h)(2) as applicable.
      (A) This report must also verify that the operating limits in Section 2.1.1 B.3.k above have not changed or provide documentation of revised operating limits established according to 40 CFR 63.7530 and Table 7 to MACT Subpart DDDDD, as applicable. The reports for all subsequent performance tests must include all applicable information required in 40 CFR 63.7550. [40 CFR 63.7515(f)]
      (B) If performance testing indicates that compliance with the emission limits is demonstrated with revisions to the operating limits that are more stringent than the established minimum or maximum operating limits in Section 2.1.1 B.3.k above**,** the Permittee shall submit a request to revise the values in the permit at the same time as the test report is submitted. The permit revision will be processed pursuant to 15A NCAC 02Q .0514.
      (C) If performance testing indicates that compliance with the emission limits is demonstrated with revisions to the operating limits that are less stringent than the established minimum or maximum operating limits in Section 2.1.1 3.B.k above, the Permittee may request to revise the values in the permit pursuant to 15A NCAC 02Q .0515.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these reporting requirements are not met.

4. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS
for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530(g) for major sources and major modifications, total sulfur dioxide (SO_2) and nitrogen oxide (NOx) emissions from the boiler **(ID No. BW)** shall be less than the following emissions limits:
   i. 40 tons of SO_2 per consecutive 12-month period; and
   ii. 40 tons of NOx per consecutive 12-month period.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.1 B.4.a.i or B.4.a.ii, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. The Permittee shall keep monthly records of fuel usage in a logbook (written or in electronic format), as follows:
   i. The total quantity (in gallons) of No. 2 fuel oil fired at the boiler; and
   ii. The fuel oil supplier certification for any fuel oil fired at the boiler, including the sulfur content of the oil (in percent by weight).

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if records of the fuel usage and No. 2 fuel oil sulfur content are not created and retained.

d. Each calendar month, the Permittee shall calculate SO_2 and NOx emissions from the affected boiler for the previous month and previous 12-month period using the equations provided below, and record calculated emissions in a logbook (written or electronic format):
   i. Calculate SO_2 (Eqn. 1) and NOx (Eqn. 2) emissions from the previous calendar month using the following equations:
   $E_{SO_2} = 142 * S * Q_{fo_2}$ $[Eqn. 1]$
   $E_{NO_X} = 20 * Q_{fo_2}$ $[Eqn. 2]$

Where: E_{SO2} = SO_2 emissions (in lbs) during the previous calendar month;
S = Sulfur content in the No. 2 fuel oil (in percent by weight);
Q_{fo2} = Quantity of No. 2 fuel oil fired at the affected sources during the previous calendar month (in 1,000 gal); and
E_{NOx} = NOx emissions (in lbs) during the previous calendar month.

ii. Sum the SO_2 emissions from the affected boiler for the previous 12-month period to determine the 12-month rolling emission total.
iii. Sum the NOx emissions from the affected boiler for the previous 12-month period to determine the 12-month rolling emission total.

The Permittee shall be deemed in non-compliance with 15A NCAC 02D .0530 if records of the monthly calculations listed above are not retained or if the 12-month rolling emission totals are greater than the emission limits provided in Section 2.1.1 B.4.a.i or B.4.a.ii, above.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.1 B.4.c and B.4.d above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the following:
   i. Monthly emissions of SO_2 and NOx emissions from the affected boiler for the previous 17 months, as calculated in Section 2.1.1 B.4.d.i, above;
   ii. Total SO_2 emissions from the affected boiler for each of the six 12-month periods ending during the reporting period, as calculated in Section 2.1.1 B.4.d.ii, above; and
   iii. Total NOx emissions from the affected boiler for each of the six 12-month periods ending during the reporting period, as calculated in Section 2.1.1 B.4.d.iii, above.

   All instances of deviations from the requirements of this permit must be clearly identified.

2.1.1 C Sulfuric Acid Plant Fugitive Emissions (ID Nos. S-5F, S-6F, and S-7F), ep192, ep193, and ep194

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

2.1.2 Mill Area

2.1.2 A Phosphate Rock Calciners:

- **No. 1 Phosphate Rock Calciner (ID No. 339-051) controlled by two duplex cyclones (ID Nos. 339-381a and 339-381b), one fixed throat venturi-type wet scrubber (ID No. 339-381c), and one wet electrostatic precipitator (ID No. 339-381d), ep201**
- **No. 2 Phosphate Rock Calciner (ID No. 339-052) controlled by two duplex cyclones (ID Nos. 339-382a and 339-382b), one fixed throat venturi-type wet scrubber (ID No. 339-382c), and one wet electrostatic precipitator (ID No. 339-382d), ep202**
- **No. 3 Phosphate Rock Calciner (ID No. 339-053) controlled by two duplex cyclones (ID Nos. 339-383a and 339-383b), one fixed throat venturi-type wet scrubber (ID No. 339-383c), and one wet electrostatic precipitator (ID No. 339-383d), ep203**
- **No. 4 Phosphate Rock Calciner (ID No. 339-054,) controlled by two duplex cyclones (ID Nos. 339-384a and 339-384b), one fixed throat venturi-type wet scrubber (ID No. 339-384c), and one wet electrostatic precipitator (ID No. 339-384d), ep204**
- **No. 5 Phosphate Rock Calciner (ID No. 339-055) controlled by two duplex cyclones (ID Nos. 339-385a and 339-385b), one fixed throat venturi-type wet scrubber (ID No. 339-385c), and one wet electrostatic precipitator (ID No. 339-385d), ep205**
- **No. 6 Phosphate Rock Calciner (ID No. 339-056), controlled by two duplex cyclones (ID Nos. 339-386a and 339-386b), one fixed throat venturi-type wet scrubber (ID No. 339-386c), and one wet electrostatic precipitator (ID No. 339-386d), ep206**

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Sulfur Dioxide	0.75 pounds per million Btu, and 1,026 pounds per day from all calciners combined	15A NCAC 02D .0501(c)
Particulate Matter PM_{10}	1,992 pounds per day total from all calciners combined	
Visible Emissions	Calciner Nos. 1, 2, 3, and 4 **(ID Nos. 339-051 through 339-054)** 40 percent opacity Calciner Nos. 5 and 6 **(ID Nos. 339-055 and 339-056)** 20 percent opacity	15A NCAC 02D .0521
Particulate Matter ($PM/PM_{10}/PM_{2.5}$) Sulfur Dioxide Nitrogen Oxides Carbon Monoxide	Monitor and report emissions	15A NCAC 02D .0530(u)
Toxic Air Pollutants	Concentration limits of used oil/used oil sludge/used glycols burned in the calciners	15A NCAC 02D .1100
Particulate matter PM_{10}	0.181 g/dscm	15A NCAC 02D.1111 (40 CFR Part 63, Subpart AA)
Mercury	0.23 mg/dscm corrected to 3 percent oxygen	
Total fluorides	9.0E-04 lb/ton of rock feed	

1. 15A NCAC 02D .0501(c): COMPLIANCE WITH NATIONAL AMBIENT AIR QUALITY STANDARDS

a. Operation of the six calciners **(ID Nos. 339-051 through 339-056)** shall be limited as follows:
   i. All calciners considered together shall be limited to 1,992 pounds per day of PM_{10} emissions total.
   ii. Each calciner shall be limited to 0.75 pounds of sulfur dioxide emissions per million Btu consumed.
   iii. All calciners considered together shall be limited to 1,026 pounds per day of sulfur dioxide emissions.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.2 A.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c).

c. The Permittee shall verify the allowable ranges of baseline average values for secondary voltage for the WESP's as described below by testing the calciners annually to determine the PM/PM_{10} emission rates according to the following conditions. The Permittee shall also use this testing to demonstrate compliance with the PM_{10} emission limit in Section 2.1.2 A.1.a.i, above.
   i. The Permittee may opt to test two calciners annually as representative of all six calciners. The calciners shall be tested in rotation such that each calciner is tested on a triennial basis. The Permittee shall test at least two calciners each year.
   ii. The calciners shall be tested annually at a rate demonstrable by production records to be equal to or greater than the normal production rate of the source. The normal production rate (hourly) shall be calculated by dividing the total annual production for each calciner by the number of hours that calciner was run during that year. The facility shall establish the normal production rate using the production records over the last production year.
   iii. At least one twelfth of the time during the test the WESP shall be in wash mode.
   iv. If the PM_{10} emissions from any calciner measured during the annual performance test are greater than or equal to 80 percent of the emission limit given in Section 2.1.2 A.1.a.i, above, the Permittee shall resume performance testing of all calciners on an annual basis. If the PM_{10} emissions from all calciners measured during two consecutive performance tests are less than 80 percent of the emission limit given in Section 2.1.2 A.1.a.i, above, the Permittee may resume the testing schedule described in Section 2.1.2 A.1.c.i, above.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c) if the required tests are not conducted, records of the tests are not maintained, or if the tests show emissions in exceedance of the applicable limits in Section 2.1.2 A.1.a.i, above.

d. The Permittee shall demonstrate compliance with the daily sulfur dioxide emission limit in Section 2.1.2 A.1.iii above by testing one calciner **(ID Nos. 339-051 through 339-056)** annually for sulfur dioxide. Details of the emissions testing and requirements can be found in General Condition JJ. The selected calciner shall be tested annually at a rate demonstrable by production records to be equal to or greater than the normal production rate of the source. The normal production rate (hourly) shall be calculated by dividing the total annual production for the selected calciner by the number of hours that calciner was run during that year. The facility shall establish the normal production rate using the production records over the last production year. If the results of this test are above the limits given in Section 2.1.2 A.1.a.ii or A.1.a.iii, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c).

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

e. To ensure compliance with Section 2.1.2 A.1.a.ii, above, the Permittee shall monitor the sulfur and heat content of all the coal or coke burned during the period by using coal supplier certification per total shipment received. The coal supplier certification shall be recorded in a logbook (written or electronic format) per total shipment and include the following information:
   i. The name of the coal/coke supplier; and
   ii. A statement verifying that the methods used to determine the maximum sulfur content of the coal was in accordance with the following:
      (A) Sampling - ASTM Method D 2234;
      (B) Preparation - ASTM Method D 2013;
      (C) Gross calorific value (Btu) - ASTM Method D 5865;
      (D) Moisture content - ASTM Method D 3173; and
      (E) Sulfur content - ASTM Method D 3177 or ASTM Method D 4239.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c) if the sulfur and heat content of the coal is not monitored and recorded.

f. To ensure compliance with Section 2.1.2 A.1.a.ii, above, the Permittee shall monitor the sulfur and heat content of all liquid fuels, except No. 2 fuel oil, burned during the period by using fuel supplier certification. The results of the fuel

supplier certifications shall be recorded in a logbook (written or electronic format) on a quarterly basis and include the following information:

i. The name of the fuel supplier;
ii. The maximum sulfur content of the fuel received during the quarter;
iii. The method used to determine the maximum sulfur content of the fuel oil;
iv. The minimum heat content of the fuel received during the quarter;
v. The method used to determine the minimum heat content of the fuel; and
vi. A certified statement signed by the responsible official that the records of fuel supplier certifications submitted represent all of the liquid fuel fired during the period in the calciners.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c) if the sulfur and heat content of the fuel is not monitored and recorded.

g. The Permittee shall ensure compliance with the PM/PM_{10} emission limits stated above by monitoring the following operational parameters:
   i. Mass flow rate of phosphorus-bearing feed material to the process.
   ii. Wet electrostatic precipitators secondary voltage.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c) if these records are not kept.
h. The Permittee shall record in a logbook (written or electronic format) the following:
   i. A daily record of phosphate rock feed by determining the total mass rate in short ton/hour of phosphorus bearing feed using a monitoring system for measuring mass flow rate.
   ii. Wet electrostatic precipitators secondary voltage.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c) if these records are not kept or if any exceedances of the limits in Section 2.1.2 A.1.ii, above, are determined.

Reporting [15A NCAC 02Q .0508(f)]

i. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.2 A.1.e through A.1.h above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from the calciners Nos. 5 and 6 **(ID Nos. 339-055 and 339-056)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.
b. Visible emissions from the calciners Nos. 1, 2, 3, and 4 **(ID Nos. 339-051 through 339-054)** shall not be more than 40 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 40 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 90 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

c. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.2 A.2.a or A.2.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

d. To ensure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. If visible emissions from these sources are observed to be above normal, the Permittee shall either:
   i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1.2 A.2.a or A.2.b, above.

   The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required monthly observations are not conducted as required or if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made.

e. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
   iii. The results of any corrective actions performed.
   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.2 A.2.d and A.2.e above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 02D .0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF REQUIREMENTS OF PSD

a. The Permittee has used projected actual emissions to avoid applicability of prevention of significant deterioration requirements pursuant to application no. 0700071.21B for the Calciner Project. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the requirements in Section 2.1.2 A.3.c below.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ.

Monitoring/Recordkeeping/Reporting [15A NCAC 02D .0530(u) and 15A NCAC 02Q .0508(f)]

c. The Permittee shall perform the following:
   i. The Permittee shall notify the Regional Office in writing of the date of beginning of resumption of regular operations of each of the calciners **(ID Nos. 339-051 through 339-056)** after the first activity planned under this project is made to the calciner, postmarked no later than 30 days after such date.
   ii. The Permittee shall maintain records of actual emissions of PM, PM_{10}, $PM_{2.5}$, SO_2, NOx, and CO from the six calciners **(ID Nos. 339-051 through 339-056)** in accordance with the following:
      (A) Total emissions from all six calciners, in tons per 12-month period, shall be recorded.
      (B) For each calciner, recordkeeping shall begin following the resumption of regular operations after any activity planned under this project is made to the calciner and shall continue for five years after all activities have been completed. The first year shall start on the first day of the first full calendar month after commencing regular operations. Each subsequent year shall include the same 12-month period.
   iii. The Permittee shall submit a report to the Director within 60 days after the end of each 12-month period, as defined in Section 2.1.2 A.3.c.ii above, during which these records must be generated. The report shall contain the items listeIn 40 CFR 51.166(r)(6)(v)(a-c).
   iv. The Permittee shall make the information documented and maintained under this condition available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).
   v. The reported actual emissions (post-construction emissions) for each 12-month period will be compared to the projected actual emissions (pre-construction projection) as included below:

Pollutant	Projected Actual Emissions* (tpy)
PM (filterable)	122.4
PM_{10}	169.7
$PM_{2.5}$	68.8
SO_2	89.2
NO_X	539.9
CO	720.8

* The projected actual emissions are not enforceable limitations. If the reported actual emissions exceed the projected actual emissions, the Permittee shall include in its annual report an explanation as to why actual emissions exceeded the projected actual emissions.

State-enforceable only

4. 15A NCAC 02D .1100: TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REQUIREMENTS

a. Pursuant to 15A NCAC 02D .1100, in accordance with the approved application for an air toxic compliance demonstration and in addition to other limits described in Section 2.2 A.1, the used oil/used oil sludge/used glycols burned in the calciners shall not contain concentrations in excess of the following:

Substance	Concentration (mg/l)
Total Halogens	4000
Arsenic	5.0
Cadmium	2.0
Chromium	10.0
Lead	100.0

Testing

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ.

Monitoring/Recordkeeping

c. To ensure compliance, the Permittee shall monitor the sulfur content of the fuel oil by using fuel oil supplier certification of an agglomerated sample of all shipments received per month. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) on a 6-month period basis and include the following information:
   i. The substance content of the used oil for each aggregate during the 6-month period;
   ii. The method used to determine the maximum substance content of the used oil; and
   iii. A certified statement signed by the responsible official that the records of testing submitted represent all of the used oil fired during the period.

Reporting

d. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.2 A.4.c above postmarked on or before January 30 for the preceding six-month period between July and December and July 30 for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart AA, Phosphoric Acid Manufacturing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart AA, "NESHAP from Phosphoric Acid Manufacturing Plants" including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.601]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.601 shall apply.

General Provisions [40 CFR 63.608]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA.

d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.608(b)]

e. The Permittee shall develop, and submit to the DAQ upon request, a site-specific monitoring plan for each continuous monitoring system (CMS) used to demonstrate compliance with any applicable emission limit or work practice standard. The plan must include the following information:

i. Location of the CMS sampling probe or other interface.
ii. Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems.
iii. Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).
iv. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1)(ii), (c)(3), (c)(4)(ii), and Table 4 to 40 CFR Part 63, Subpart AA.
v. Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d)(1) and (2) and Table 5 to 40 CFR Part 63, Subpart AA.
vi. Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i).
vii. A schedule for conducting initial and subsequent performance evaluations.
viii. The program of corrective action required under 40 CFR 63.8(d)(2).

The Permittee shall maintain the site-specific monitoring plan on site for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the DAQ. If the site-specific monitoring plan is revised, the Permittee shall maintain previous (*i.e.*, superseded) versions of the plan on site to be made available for inspection, upon request, by the DAQ, for a period of 5 years after each revision to the plan. [40 CFR 63.608(c)]

Emission limits [15A NCAC 02Q .0508(f)]

f. No calciner **(ep201 through ep206)** shall discharge into the atmosphere gases that contain the following:
i. Total particulate matter in excess of 0.181 grams per dry standard cubic meter (g/dscm).
ii. Total fluorides in excess of 9.0E-04 lb/ton of rock feed.
iii. Mercury in excess of 0.23 mg/dscm corrected to 3 percent oxygen.

[40 CFR 63.602(a)(2) and Table 1 of 40 CFR Part 63, Subpart AA]

Testing [15A NCAC 02Q .0508(f)]

g. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.2 A.5.f above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.
h. The Permittee shall conduct performance tests once per calendar year. The Permittee shall conduct the annual testing in accordance with General Condition JJ and the following paragraphs. The Permittee shall use as reference methods and procedures the test methods in 40 CFR Part 60, Appendix A or other methods and procedures as specified in 40 CFR 63.606. [40 CFR 63.606(b) and (e)]
i. The Permittee may opt to test two calciners annually as representative of all six calciners. The calciners shall be tested in rotation such that each calciner is tested on a triennial basis. The Permittee shall test at least two calciners each year.
ii. Each performance test of the calciners **(ep201 through ep206)** shall be conducted at representative (normal) conditions for the process. Representative (normal) conditions mean those conditions that:
(A) Represent the range of combined process and control measure conditions under which the emission source expects to operate (regardless of the frequency of the conditions); and
(B) Are likely to most challenge the emissions control measures of the emission source with regard to meeting the emission standards in Section 2.1.2 A.5.f above, but without creating an unsafe condition. Operations during startup, shutdown, and malfunction do not constitute representative (normal) operating conditions for purposes of conducting a performance test.

[40 CFR 63.606(d)(1)]
iii. The Permittee shall record the process information that is necessary to document the operating conditions during the test and include in such record an explanation to support that such conditions represent representative (normal) conditions. Upon request, the Permittee shall make available to DAQ such records as may be necessary to determine the conditions of performance tests. [40 CFR 63.606(d)(2)]
iv. During the most recent performance test, if compliance is demonstrated with the emission limit while operating the control device outside the previously established operating limit, the Permittee shall establish a new operating limit based on that most recent performance test and notify DAQ that the operating limit changed based on data collected during the most recent performance test. [40 CFR 63.607(a)]
(A) When a calciner **(ep201 through ep206)** is retested and the performance test results are submitted to DAQ, the Permittee shall indicate whether the operating limit is based on the new performance test or the previously established limit.
(B) Upon establishment of a new operating limit, the Permittee shall thereafter operate under the new operating limit. If DAQ determines that the Permittee did not conduct the compliance test in accordance with the

applicable requirements or that the operating limit established during the performance test does not correspond to representative (normal) conditions, the Permittee shall conduct a new performance test and establish a new operating limit.

v. If the emissions of particulate matter and/or fluorides from any calciner measured during the annual performance test are greater than or equal to 80 percent of the relevant emission limit given in Section 2.1.2 A.5.f.i through ii, above, the Permittee shall resume performance testing of all calciners on an annual basis for the relevant pollutant(s). If the emissions of the relevant pollutant(s) from each calciner measured during two consecutive performance tests are less than 80 percent of the relevant emission limit given in Section 2.1.2 A.5.f.i through ii, above, the Permittee may resume the testing schedule described in Section 2.1.2 A.5.h.i, above, for the relevant pollutant(s).

vi. If the emissions of mercury from any calciner measured during the annual performance test are greater than or equal to 90 percent of the emission limit given in Section 2.1.2 A.5.f.iii, above, the Permittee shall resume performance testing of all calciners on an annual basis for mercury. If the emissions of mercury from each calciner measured during two consecutive performance tests are less than 90 percent of the emission limit given in Section 2.1.2 A.5.f.ii, above, the Permittee may resume the testing schedule described in Section 2.1.2 A.5.h.i, above, for mercury.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the required tests are not conducted, records of the tests are not maintained, or if the tests show emissions in exceedance of the applicable limits in Section 2.1.2 A.5.f, above.

i. For each calciner **(ep201 through ep206)** that has not operated since the previous annual performance test was conducted and more than 1 year has passed since the previous performance test, the Permittee shall conduct a performance test no later than 180 days after the re-start of the calciner according to the applicable provisions in 40 CFR 63.7(a)(2). [40 CFR 63.606(c)]

j. If the new parametric operating values re-established during periodic testing are more stringent than the current operating ranges or limits, the Permittee shall submit a request to revise the value(s) in the permit at the same time the test report required pursuant to General Condition JJ is submitted. The permit revision will be processed pursuant to 15A NCAC 02Q .0514. If, during performance testing, the new parametric operating values are less stringent, the Permittee may request to revise the value(s) in the permit pursuant to 15A NCAC 02Q .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f), 40 CFR 63.605, 40 CFR 63.607]

k. The Permittee shall install, calibrate, maintain, and operate a CMS according to the site-specific monitoring plan specified in Section 2.1.2 A.5.e above. The Permittee shall install a CMS with an accuracy of ±5 percent over its operating range and must determine and permanently record the mass flow of phosphorus-bearing feed material to each calciner **(ep201 through ep206)**. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the feed material mass flow is not monitored as required. [40 CFR 63.605(b)(1)(i)]

l. The Permittee shall install a secondary voltage meter, accurate to ±1kV, to monitor the wet electrostatic precipitators secondary voltage on a continuous basis, with a data recording every 15 minutes and averaged on a daily basis. The Permittee shall establish allowable ranges using the methodology provided below. [40 CFR 63.605(d)(1) through (d)(3) and Tables 3, 4 and 5 of 40 CFR Part 63, Subpart AA]

i. The allowable range for the daily averages secondary voltage for each wet electrostatic precipitator, is ±20 percent of the baseline average value determined as the arithmetic average of operating parameter measurements recorded during the three test runs conducted for the most recent performance test, conducted according to Section 2.1.2 A.5.h above. DAQ retains the right to reduce the ±20 percent adjustment to the baseline average values of operating ranges in those instances where performance test results indicate that the level of emissions from any calciner is near the value of an applicable emissions standard. However, the adjustment must not be reduced to less than ±10 percent under any instance.

ii. As an alternative to Section 2.1.2 A.5.l.i above, the Permittee may establish allowable ranges for the daily averages secondary voltage for the wet electrostatic precipitators as follows:

(A) The Permittee shall establish the allowable ranges based on the baseline average values recorded during previous performance tests, or the results of performance tests conducted specifically for the purposes of establishing allowable ranges.

(B) The Permittee shall conduct all performance tests using the methods specified in Section 2.1.2 A.5.h above.

(C) The Permittee shall certify that the control devices and processes have not been modified since the date of the performance test from which the data obtained are used to establish the allowable ranges. When the calciner using the methodology of this paragraph is retested, the Permittee shall determine new allowable ranges of baseline average values unless the retest indicates no change in the operating parameters outside the previously established ranges.

iii. The Permittee has submitted the results of previous tests to demonstrate allowed limits for the secondary voltage monitoring parameters. The allowed limits are as follows:
(A) WESP on Calciner No. 1 **(ID No. 339-381d)**: 37.17 minimum Kv,
(B) WESP on Calciner No. 2 **(ID No. 339-382d)**: 36.78 minimum Kv,
(C) WESP on Calciner No. 3 **(ID No. 339-383d)**: 40.46 minimum Kv,
(D) WESP on Calciner No. 4 **(ID No. 339-384d)**: 38.56 minimum Kv,
(E) WESP on Calciner No. 5 **(ID No. 339-385d)**: 37.95 minimum Kv, and
(F) WESP on Calciner No. 6 **(ID No. 339-386d)**: 41.62 minimum Kv.
If the daily averages of minimum secondary voltage is below the allowable limit, an exceedance will have occurred. The WESP will be allowed a maximum of two hours per day for the wash mode of the units, but values of secondary voltage recorded during the wash mode shall be included in the daily averages. During this time, the secondary voltage will be allowed to drop to zero. [15A NCAC 02D .0508(f)]

m. The Permittee shall install a venturi scrubber , with a data recording every 15 minutes and averaged on a daily basis. The Permittee shall establish allowable ranges using the methodology provided below. [40 CFR 63.605(d)(1) through (d)(3) and Tables 3, 4 and 5 of 40 CFR Part 63, Subpart AA]
i. The allowable range for the daily averages of the pressure drop across an absorber and of the flow rate of the absorber liquid to each absorber in the process absorbing system is ±20 percent of the baseline average value determined as the arithmetic average of operating parameter measurements recorded during the three test runs conducted for the most recent performance test, conducted according to Section 2.1.2 A.5.h above. DAQ retains the right to reduce the ±20 percent adjustment to the baseline average values of operating ranges in those instances where performance test results indicate that the level of emissions from any calciner is near the value of an applicable emissions standard. However, the adjustment must not be reduced to less than ±10 percent under any instance.
ii. As an alternative to Section 2.1.2 A.5.m.i above, the Permittee may establish allowable ranges for the daily averages of the pressure drop across the absorbers as follows:
(A) The Permittee shall establish the allowable ranges based on the baseline average values recorded during previous performance tests, or the results of performance tests conducted specifically for the purposes of establishing allowable ranges.
(B) The Permittee shall conduct all performance tests using the methods specified in Section 2.1.2 A.5.h above.
(C) The Permittee shall certify that the control devices and processes have not been modified since the date of the performance test from which the data obtained are used to establish the allowable ranges. When the calciner using the methodology of this paragraph is retested, the Permittee shall determine new allowable ranges of baseline average values unless the retest indicates no change in the operating parameters outside the previously established ranges.
iii. The Permittee has submitted the results of previous tests to demonstrate allowed ranges for the minimum liquid influent flow and the pressure drop. The allowed ranges are as follows:
(A) Venturi type water scrubber on Calciner No. 1 **(ID No. 339-381c)**: Pressure drop: 6.5 to 14.0 inches of water; minimum influent liquid flow rate : 58.6 gpm;
(B) Venturi type water scrubber on Calciner No. 2 : **(ID No. 339-382c)** Pressure drop: 9.8 to 15.6 inches of water; minimum influent liquid flow rate : 98.7 gpm;
(C) Venturi type water scrubber on Calciner No. 3 **(ID No. 339-383c)**: Pressure drop: 9.5 to 14.9 inches of water; minimum influent liquid flow rate : 91.6 gpm;
(D) Venturi type water scrubber on Calciner No. 4 **(ID No. 339-384c)**: Pressure drop: 7.0 to 15.0 inches of water; minimum influent liquid flow rate : 130.3 gpm;
(E) Venturi type water scrubber on Calciner No. 5: Pressure drop **(ID No. 339-385c)**: 7.8 to 16.2 inches of water; minimum influent liquid flow rate : 110.5 gpm; and
(F) Venturi type water scrubber on Calciner No. 6: Pressure drop **(ID No. 339-386c)**: 5.7 to 14.7 inches of water; minimum influent liquid flow rate : 126.1 gpm.
iv. If the daily averages of pressure drop are outside the allowable range or if the minimum inlet liquid flow rate is below the allowable limit an exceedance will have occurred.

n. The Permittee shall demonstrate compliance with the emissions standards in Section 2.1.2 A.5.f above using the procedures in 40 CFR 63.606(f) through (i). In computing averages to determine compliance the Permittee shall exclude the monitoring data specified below. [40 CFR 63.606 and 63.607(d)]
i. Periods of non-operation of the calciner;
ii. Any monitoring data recorded during monitoring system breakdowns, out-of-control periods, repairs, maintenance periods, instrument adjustments or checks to maintain precision and accuracy, calibration checks, and zero (low-level), mid-level (if applicable), and high-level adjustments.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the average monitoring parameters are not calculated as required above.

o. The Permittee shall conduct a performance evaluation, as specified in 40 CFR 63.8(e), in accordance with the site-specific monitoring plan required in Section 2.1.2 A.5.e above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the performance evaluation is not conducted as required. [40 CFR 63.606(m)]

p. The Permittee shall record in a logbook (written or electronic format) the following:
   i. A daily record of phosphate rock feed by determining the total mass rate in short ton/hour of phosphorus bearing feed using a monitoring system for measuring mass flow rate. [40 CFR 63.605(b)(2)(i)]
   ii. Wet electrostatic precipitators secondary voltage. [40 CFR 63.605(d)(2)]
   iii. The pressure drop and the flow rate of the venturi scrubbers. [40 CFR 63.605(d)(2)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these records are not kept or if any exceedances of the limits in Section 2.1.2 A.5.l and A.5.m above are not determined.

q. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years. [40 CFR 63.607(b)(1) and (c)] The Permittee shall be deemed in noncompliance if these requirements are not met.

Start-up, Shutdown, and Malfunction Procedures [40 CFR 63.602(f)]

r. During periods of startup and shutdown, as defined in 40 CFR 63.601, the Permittee shall comply with the work practice specified in this paragraph in lieu of the emission limits specified in Section 2.1.2 A.5.f above. During periods of startup and shutdown, the Permittee shall operate the WESPs and venturis used on calciners, monitor the secondary voltage in accordance with Section 2.1.2 A.5.l above, monitor the pressure drop and flow rate in accordance with Section 2.1.2 A.5.m above, and comply with the operating limits specified in Section 2.1.2 A.5.l.iii and Section 2.1.2 A.5.m.iii above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Reporting [15A NCAC 02Q .0508(f)]

s. Summary report. If the total duration of control system exceedances for the reporting period is less than 1 percent of the total operating time for the reporting period or if CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, the Permittee shall submit a summary report containing the information specified in 40 CFR 63.10(e)(3)(iv) rather than the full excess emissions report. The summary report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. [40 CFR 63.607(b)(5), 40 CFR 63.10(e)(3)(vii)]

t. Excess emissions report. If the total duration of control system operating parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period or if the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Permittee shall submit both a Summary Report and an excess emissions report for any exceedance of an operating parameter limit. The report shall contain the information specified in 40 CFR 63.10 and 40 CFR 63.607(b)(4). The report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. If exceedances are reported, the Permittee shall report quarterly until a request to reduce reporting frequency is approved as described in 40 CFR 63.10. [40 CFR 63.607(b)(3) and (5), 40 CFR 63.10(e)(3)(viii)]

u. EPA Electronic Reporting Tool. Within 60 days after the date of completing each performance test (defined in 40 CFR 63.2) as required by 40 CFR Part 63, Subpart AA, the Permittee shall submit the results of the performance tests, including any associated fuel analyses, to the DAQ pursuant to 40 CFR 63.10(d)(2) and to the EPA via the procedures in 40 CFR 63.607(e)(1) or (2).

v. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the reporting requirements in Section 2.1.2 A.5.s through 2.1.2 A.5.u are not met.

2.1.2 B Phosphate Rock Dryer (ID No. 332-120) controlled by a duplex cyclone (ID No. 332-370a) and venturi type wet scrubber (ID No. 332-370b), ep210

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Sulfur Dioxide	300 pounds per day	15A NCAC 02D .0501(c)
	2.3 pounds per million Btu	15A NCAC 02D .0516
Particulate Matter	$E = 4.10 \times P^{0.67}$ (for process rates ≤ 30 tons per hour), or $E = 55.0 \times P^{0.11} - 40$ (for process rates > 30 tons per hour) Where: E = allowable emission rate in pounds per hour P = rock throughput in tons per hour	15A NCAC 02D .0515
Visible Emissions	40 percent opacity	15A NCAC 02D .0521
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

1. 15A NCAC 02D .0501(c): COMPLIANCE WITH NATIONAL AMBIENT AIR QUALITY STANDARDS

a. Sulfur dioxide (SO_2) emission from the Phosphate Rock Dryer **(ID No. 332-120)** shall be limited to no greater than 300 pounds per day (midnight to midnight).

Testing [15A NCAC 02Q .0508(f)]

b. The Permittee shall conduct a stack test once per every permit term(no more than 60 months between performance tests) to determine the SO_2 emission rate from the Phosphate Rock Dryer **(ID No. 332-120)** on a pound per hour (lb/hr) and pound per million Btu (lb/million Btu) basis. If the source did not operate within the permit term, the permittee shall conduct the stack testing within 60 days of resuming operation. The emission test shall be performed in accordance with General Condition JJ. The Permittee shall be required to meet the following test conditions:
   i. The test shall occur at a production rate that is equal to or greater than the normal production rate of the source. The normal production rate (hourly) shall be calculated by dividing the total annual production for rock dryer for the previous year by the number of hours that it was run during that year.
   ii. The sulfur content of the fuel oil fired at the rock dryer during the test shall be equal to or greater than the normal sulfur content of the fuel oil fired at the source. The normal sulfur content shall be calculated by determining the average sulfur content of No. 6 fuel oil received at the facility (from fuel supplier certifications) since the last performance test.
   iii. If the SO_2 emissions from the Phosphate Rock Dryer **(ID No. 332-120)** measured during the performance test are greater than 80 percent of the emissions limit, the Permittee shall resume performance testing on an annual basis. If the SO_2 emissions from the rock dryer measured during two consecutive performance tests are equal to or less than 80 percent of the emissions limit, the Permittee shall resume testing once per every permit term (no more than 60 months between performance tests).

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c) if the testing requirements listed above are not met.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. If the hourly emission rate detected by the most recent stack test is less than or equal to 25 lb/hr, no monitoring, recordkeeping, or reporting is required to demonstrate compliance with this standard.

d. If the hourly emission rate detected by the most recent stack test is greater than 25 lb/hr, the Permittee shall monitor and record the daily emission rate as follows:
   i. Each calendar day, the Permittee shall record the hours the rock dryer operated during the previous calendar day (in hr/day);
   ii. The Permittee shall calculate and record the daily SO_2 emission rate (in lb/day) by multiplying the hourly emission rate, determined in accordance with Section 2.1.2 B.1.b, above, and hours of operation for each calendar day. The SO_2 emission calculation shall be conducted at least monthly (i.e., for any given calendar day, the emission calculation shall be completed by the end of the following calendar month).

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c) if the required monitoring and recordkeeping requirements listed above are not met, or if any calculated SO_2 emission rate exceeds the limit in Section 2.1.2 B.1.a, above.

e. If the hourly emission rate detected by the most recent stack test is greater than 25 lb/hr, the Permittee shall submit a summary report of the monitoring postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from this source **(ID No. 332-120)** shall not exceed an allowable emission rate as calculated by the following equations:

$E = 4.10 \times P^{0.67}$ (for process rates less than or equal to 30 tons per hour), or
$E = 55.0 \times P^{0.11} - 40$ (for process rates greater than 30 tons per hour)

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.2 B.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

c. Pursuant to NCGS 143-215.108, the Permittee shall determine the allowable ranges of baseline average values for the pressure drop and liquid injection rate for the scrubber as described below by annually testing the rock dryer for particulate matter (PM). Details of the emissions testing and requirements can be found in General Condition JJ. The rock dryer shall be tested annually at a rate demonstrable by production records to be equal to or greater than the normal production rate of the source. The normal production rate (hourly) shall be calculated by dividing the total annual production for rock dryer by the number of hours that it was run during that year. The facility shall establish the normal production rate using the production records over the last production year. If the results of this test are above the limit given in Section 2.1.2 B.2.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring 15A NCAC 02Q .0508(f)]

d. Emissions from the Phosphate Rock Dryer **(ID No. 332-120)** shall be controlled by a duplex cyclone **(ID No. 332-370a)** and venturi-type wet scrubber **(ID No. 332-370b)**.

e. The Permittee shall perform inspections and maintenance for the control devices as recommended by the manufacturer.

f. The venturi-type wet scrubber shall meet the following operational requirements:
   i. The daily average pressure drop of the gas stream across the scrubber shall be maintained between 8.2 inches of H_2O and 23.5 inches of H_2O.
   ii. The daily average flow rate of the scrubbing liquid injection shall be a minimum of 873 gallons per minute.

g. The Permittee shall install, calibrate, maintain, and operate monitoring systems to monitor and record the following:
   i. The pressure drop of the gas stream across the scrubber; and
   ii. The flow rate of the scrubbing liquid to the scrubber.

   Each of the monitors shall record the operating parameter in 15-minute block averages. The monitoring systems shall be certified by the manufacturer to have an accuracy of ±5 percent over the operating range. Records shall be maintained in a logbook (written or electronic format).

h. The Permittee shall be deemed in non-compliance with 15A NCAC 02D .0515 if the monitoring requirements in Section 2.1.2 B.2.d, B.2.e, and B.2.g above are not met or if the monitored operating parameters (on a 24-hour block average) are not within the allowable ranges provided in Section 2.1.2 B.2.f, above.

Recordkeeping [15A NCAC 02Q .0508(f)]

i. The results of any monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. the date and time of each recorded action;
   ii. the results of each inspection;

iii. the results of any maintenance performed on the control devices;
iv. any variance from manufacturer's recommendations, if any, and corrections made; and
v. the daily average pressure drop and the daily average flow rate (on 24-hour block averages) for the venturi scrubber.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these recordkeeping requirements are not met.

Reporting [15A NCAC 02Q .0508(f)]

j. The Permittee shall submit the results of any maintenance performed on any control device within 30 days of a written request by the DAQ.
k. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1.2 B.2.d, B.2.e, B.2.f, B.2.g, and B.2.i above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.2 B.3.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. The testing requirement in Section 2.1.2 B.1.b, above is sufficient to demonstrate compliance with this standard. The Permittee shall be deemed in non-compliance with 15A NCAC 02D .0516 if the sulfur dioxide emission rate (in lb/million Btu) determined during the annual stack test exceeds the limit in Section 2.1.2 B.3.a, above.

4. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from the rock dryer shall not be more than 40 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 40 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 90 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.2 B.4.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. To ensure compliance, once a month the Permittee shall observe the emission points of this source for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. If visible emissions from this source are observed to be above normal, the Permittee shall either:
   i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1.2 B.4.a, above.

   The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required monthly observations are not conducted as required or if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made.
d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;

ii. The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
iii. The results of any corrective actions performed.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.2 B.4.c and B.4.d above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING – PM_{10}

a. Per 40 CFR 64 and 15A NCAC 02D .0614, the Permittee shall comply with the following compliance assurance monitoring (CAM) requirements.

Background

b. Emission Units:
Phosphate Rock Dryer **(ID No. 332-120)**

c. Applicable Regulation, Emission Limit, and Monitoring Requirements
i. Regulation:
15A NCAC 02D .0515
ii. Emission limits:
$E = 4.10 \times P^{0.67}$ (for process rates less than or equal to 30 tons per hour), or
$E = 55.0 \times P^{0.11} - 40$ (for process rates greater than 30 tons per hour)
Where: E = allowable emission rate in pounds per hour
P = rock throughput in tons per hour
iii. Control Technology:
Duplex cyclone **(ID No. 332-370a)** and venturi type wet scrubber **(ID No. 332-370b)**

Monitoring [15A NCAC 02D .0614]

d. The Permittee shall install, calibrate, maintain, and operate monitoring systems to monitor and record the following:
i. The pressure drop of the gas stream across the scrubber; and
ii. The flow rate of the scrubbing liquid to the scrubber.

e. Each of the monitors shall record the operating parameter in 15-minute block averages. The monitoring systems shall be certified by the manufacturer to have an accuracy of ±5 percent over the operating range. Records shall be maintained in a logbook (written or electronic format).

f. Indicator Range – If the daily average (midnight-to-midnight) value of any monitored parameter falls outside the following ranges, the Permittee shall conduct an inspection and perform maintenance pursuant to standard operating procedures:
i. The daily average pressure drop of the gas stream across the scrubber shall be maintained between 8.2 inches of H_2O and 23.5 inches of H_2O.
ii. The daily average flow rate of the scrubbing liquid injection shall shall be a minimum of 873 gallons per minute.

g. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0614 if the monitoring requirements in Section 2.1.2 B.5.d through B.5.f above are not followed.

Performance Criteria [15A NCAC 02D .0614]

h. Data Representativeness and QA/QC. The Permittee shall develop and implement a quality assurance program (QAP) for the device in accordance with the provisions of 15A NCAC 02D .0613. Existing plant QA/QC procedures/manufacturer's recommended quality assurance procedures may be used as a QAP if they meet the requirements of 15A NCAC 02D .0613.

i. Averaging Periods. Compliance with the emission limitations are determined on a daily average (midnight to midnight) basis.

Recordkeeping and Reporting [15A NCAC 02Q .0508(f), 40 CFR 64.9]

j. The Permittee shall comply with the recordkeeping requirements of 40 CFR 64.9(b) and submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the

preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The reports shall comply with the reporting requirements of 40 CFR 64.9(a) and include, at a minimum, the following information, as applicable:

i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
iii. A description of the actions taken to implement a Quality Improvement Plan (QIP) during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the Permittee shall include, in the next summary report, documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances.

2.1.2 C Coal/coke pulverizer and thermal dryer system (ID No. 341-300) controlled by a single cyclone (ID No. 341-310) and two parallel bagfilters (ID Nos. 341-331 and 341-332), ep215

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Sulfur Dioxide	2 pounds per day	15A NCAC 02D .0501(c)
Particulate Matter PM_{10}	0.031 grains per dry standard cubic foot	15A NCAC 02D .0524 (40 CFR Part 60, Subpart Y)
	Compliance Assurance Monitoring (CAM) Plan	15A NCAC 02D .0614
Visible Emissions	20 percent opacity	15A NCAC 02D .0524 (40 CFR Part 60, Subpart Y)
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

1. 15A NCAC 02D .0501(c): COMPLIANCE WITH NATIONAL AMBIENT AIR QUALITY STANDARDS

a. Sulfur dioxide (SO_2) emission from the coal processing system **(ID No. 341-300)** shall be limited to no greater than 2 pounds per day (midnight to midnight).

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.2 C 1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c).

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is required to demonstrate compliance with this standard.

2. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR Part 60, Subpart Y, Standards of Performance for Coal Preparation and Processing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524, "New Source Performance Standards," as promulgated in 40 CFR 60, Part Subpart Y, "Standards of Performance for Coal Preparation and Processing Plants," including Subpart A, "General Provisions," for the coal processing system.

Emission Limitations [15A NCAC 02D .0524, 40 CFR 60.252(a)]

b. The Permittee shall not cause to be discharged into the atmosphere from the thermal dryer any gases which contain particulate matter in excess of 0.070 g/dscm (0.031 grains per dry standard cubic feet (gr/dscf)).
c. The Permittee shall not cause to be discharged into the atmosphere from the thermal dryer any gases which exhibit 20 percent opacity or greater.

Testing [15A NCAC 02Q .0508(f)]

d. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.2 C.2.b and 2.1.2 C.2.c above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f), 40 CFR 60.256(a)]

e. The Permittee shall install, calibrate, maintain, and continuously operate a monitoring device for the measurement of the temperature of the gas stream at the exit of the thermal dryer on a continuous basis. The Permittee shall meet the following:
   i. The monitoring device is to be certified by the manufacturer to be accurate within ±1.7 °C (±3 °F). [40 CFR 60.256(a)(1)(i)]
   ii. The monitoring device is to be recalibrated annually in accordance with procedures under 40 CFR 60.3(b). [40 CFR 60.256(a)(2)]
   iii. The Permittee shall record in a logbook (written or electronic format) the results of the temperature measurement in accordance with 40 CFR 60.13(f) and the annual recalibration. [15A NCAC 02Q .0508(f)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the monitoring is not conducted or the records are not kept.

f. Particulate matter emissions from the coal/coke pulverizer and thermal dryer system**(ID No. 341-300)** shall be controlled by a single cyclone **(ID No. 341-310)** and two parallel bagfilters **(ID Nos. 341-331 and 341-332)**. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer, if any. As a minimum, the inspection and maintenance program shall include:
   i. Monthly external inspection of the ductwork, cyclone, and bagfilters noting the structural integrity; and
   ii. Annual (for each 12-month period following the initial inspection) internal inspection of the bagfilters noting the structural integrity and the condition of the filters.

   [15A NCAC 02Q .0508(f)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the ductwork, cyclone, and bagfilters are not inspected and maintained.

g. To ensure compliance for the coal/coke pulverizer and thermal dryer system **(ID No. 341-300)**, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. The Permittee shall establish "normal" for the source **(ID No. 341-300)** in the first 30 days following permit issuance. If visible emissions from these sources are observed to be above normal, the Permittee shall either:
   i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. Demonstrate that the percent opacity from the emission points of the emission sources in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1.2 C.2.c above.

   [15A NCAC 02Q .0508(f)]

   The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0524 if the required monthly observations are not conducted as required; if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made; or if "normal" is not established for the source **(ID No. 341-300)** within the first 30 days after permit issuance.

h. The results of the visible emission monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
   iii. The results of any corrective actions performed.

   [15A NCAC 02Q .0508(f)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

i. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.2 C.2.e through C.2.h above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING – PM_{10}

a. Per 40 CFR 64 and 15A NCAC 02D .0614, the Permittee shall comply with the following compliance assurance monitoring (CAM) requirements.

Background

b. Emission Units:
Coal/coke pulverizer and thermal dryer system **(ID No. 341-300)**

c. Applicable Regulation, Emission Limit, and Monitoring Requirements
   i. Regulation:
   15A NCAC 02D .0524 and 40 CFR Part 60, Subpart Y
   ii. Emission limits:
   0.031 grains per dry standard cubic foot
   iii. Control Technology:
   Single cyclone **(ID No. 341-310)** and two parallel bagfilters **(ID Nos. 341-331 and 341-332)**

Monitoring Approach

d. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criteria are presented in the following table. The Permittee may use either indicator as appropriate. However, on any day in which one indicator is used, the other indicator may not also be utilized.

Measure	Indicator 1 – Visible Emissions	Indicator 2 – Differential Pressure Drop
I. Indicator Measuring approach	A visible emissions (VE) observation from the bagfilters **(ID Nos. 341-331 and 341-332)** will be conducted daily for visible emissions above normal. The Permittee shall establish "normal" in the first 30 days following permit issuance.	A daily instantaneous differential pressure reading across bagfilters **(ID Nos. 341-331 and 341-332).**
II. Indicator Range	An excursion is defined as the presence of above normal emissions. The Permittee shall take appropriate action to correct the above-normal emissions as soon as possible. The Permittee shall take corrective action such as the following: i. Take appropriate action to correct the above-normal emissions as soon as practicable and verify that the corrective action returned visible emissions to within normal; or ii. Demonstrate that opacity does not exceed 20 percent opacity standard in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes. An excursion will trigger corrective action to return emissions to normal as soon as possible and recordkeeping and reporting in accordance with Section 2.1.2 C.3.e below.	An excursion is defined as an instantaneous differential pressure reading outside the following indicator range: Pressure drop: 0.05 to 14.0 inches of water Excursion triggers corrective action and recordkeeping and reporting in accordance with Section 2.1.2 C.3.e below.
	The Quality Improvement Plan (QIP) threshold is excursions occurring on five days (consecutive or non-consecutive days) in a six-month reporting period.	

Measure	Indicator 1 – Visible Emissions	Indicator 2 – Differential Pressure Drop
III. Performance Criteria		
Data Representativeness	Visible emissions shall be observed at the emissions point (each bagfilter **(ID Nos. 341-331 and 341-332)** exhaust).	Pressure drop measured across the bagfilters **(ID Nos. 341-331 and 341-332)**
QA/QC Practices and Criteria	Method 9 observations are conducted by a certified Reference Method 9 observer.	Pressure gauge and transducer (if equipped with transducer) calibration shall be performed according to manufacturer recommendations (or standard industry practice if there are no manufacturer recommendations). Pressure taps checked for plugging during calibration.
Monitoring frequency	A VE observation shall be performed daily, when operating.	Pressure drop is measured continuously.
Data Collection Procedures	The VE observation is recorded by the observer.	Pressure drop is manually recorded daily.
Averaging Period	N/A	N/A

Recordkeeping and Reporting [15A NCAC 02Q .0508(f), 40 CFR 64.9]

e. The Permittee shall comply with the recordkeeping requirements of 40 CFR 64.9(b) and submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The reports shall comply with the reporting requirements of 40 CFR 64.9(a) and include, at a minimum, the following information, as applicable:
   i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
   ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
   iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the Permittee shall include, in the next summary report, documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances.

2.1.2 D Coal/coke railcar unloader (ID No. 341-100), ep294a
Three parallel conveyor belts and single belt conveyor (ID Nos. 341-110, 341-111, 341-112, 341-120), ep294b
Single belt conveyor (ID No. 341-140), ep294c
Coal/coke crusher (ID No. 341-130), ep294d
Two coal/coke storage silos (ID Nos. 341-200 and 341-201) controlled by filtered bin vents (ID Nos. CD341-200 and CD341-201), ep294e
Conveyor belt (ID No. 341-230), ep294f

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 55.0 \times P^{0.11} - 40$ (for process rates > 30 tons per hour) Where: E = allowable emission rate in pounds per hour P = rock throughput in tons per hour	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0524 (40 CFR Part 60 Subpart Y)
Toxic Air Pollutants	**State enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation:

$E = 55.0 \times P^{0.11} - 40$ (for process rates greater than 30 tons per hour)

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.2 D.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from the coal/coke storage silos **(ID Nos. 341-200 and 341-201)** shall be controlled by filtered bin vents **(ID Nos. CD341-200 and CD341-201)**. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. A monthly visual inspection of the dust collection systems and associated ductwork for leaks; and
   ii. An annual (for each 12 month period following the initial inspection) internal inspection of the bin vent filtration systems' structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork and bin vent filtration systems are not inspected and maintained.

d. The results of inspection and maintenance specified in Section 2.1.2 D.1.c above shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection;
   iii. The results of any maintenance performed on the bin vent filtration systems; and
   iv. Any variance from manufacturer's recommendations, if any, and corrections made.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained.

e. For emission sources **(ID Nos. 341-100, 341-110, 341-111, 341-112, 341-120, 341-140, 341-130, and 341-230)**, compliance with the monitoring and recordkeeping requirements in Section 2.1.2 D.2.e through D.2.g below will be sufficient to demonstrate compliance with 15A NCAC 02D .0515. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the monitoring and recordkeeping requirements in Section 2.1.2 D.2.e through D.2.g are not met.

Reporting [15A NCAC 02Q .0508(f)]

f. The Permittee shall submit the results of any maintenance performed on the bin vent filters within 30 days of a written request by the DAQ.

g. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.2 D.1.c through D.1.e above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS (40 CFR Part 60, Subpart Y, Standards of Performance for Coal Preparation and Processing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524, "New Source Performance Standards," as promulgated in 40 CFR Part 60, Subpart Y, "Standards of Performance for Coal Preparation and Processing Plants," including Subpart A, "General Provisions," for the coal handling and crushing systems.

Emission Limitations [15A NCAC 02D .0524, 40 CFR 60.254(a)]

b. Visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period.

Testing [15A NCAC 02Q .0508(f)]

c. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.2 D.2.b above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

d. The Permittee shall control visible emissions from the coal/coke storage silos **(ID Nos. 341-200 and 341-201)** with filtered bin vents **(ID Nos. CD341-200 and CD341-201)**. The monitoring and recordkeeping requirements in Section 2.1.2 D.1.c and D.1.d above will be sufficient to demonstrate compliance with 15A NCAC 02D .0524. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the monitoring and recordkeeping requirements in Section 2.1.2 D.1.c and D.1.d are not met.

e. Except for the coal/coke storage silos **(ID Nos. 341-200 and 341-201)**, the Permittee shall control visible emissions from all of the sources above by wet suppression systems. The suppression systems shall not be required to operate when the coal/coke is intrinsically sufficiently moist to limit visible emissions to less than the above limit. In addition, all hood covers, conveyor belt skirts, and transfer points shall be maintained and operated in a manner to avoid visible emissions.

f. The Permittee shall perform maintenance as required, but in no case less frequently than an annual inspection of all suppression equipment,(including hood covers and belt skirts. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if this maintenance is not performed.

g. The results of inspection and maintenance for the suppression equipment shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection; and
   iii. The results of maintenance performed on any control device.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

h. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.2 D.2.d through D.2.g above postmarked on or before January 30 of each calendar year for the preceding six-month period

between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2.1.2 E Calcined rock conveyor transfer station (ID Nos. Belt 55 to 70.1) controlled by fabric filter (ID No. 339-680), ep221
Calcined rock transfer station (ID No. Belt 21or Belt 22 to Belt 23 or Belt 24) controlled by fabric filter (ID No. 333-180 or 333-190), ep222

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 55.0 \times P^{0.11} - 40$ (for process rates > 30 tons per hour) Where: E = allowable emission rate in pounds per hour P = rock throughput in tons per hour	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Toxic Air Pollutants	**State enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation:

$E = 55.0 \times P^{0.11} - 40$ (for process rates greater than 30 tons per hour)

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.2 E.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. The Permittee shall maintain production records which specify the quantity of dry phosphate rock processed and shall make these records available to a DAQ authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the production records are not maintained.

d. Particulate matter emissions from the conveyor belt drop point shall be controlled by the bagfilter. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. A monthly visual inspection of the system ductwork and material collection unit for leaks; and
   ii. An annual (for each 12-month period following the initial inspection) internal inspection of the bagfilter's structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork and bagfilters are not inspected and maintained.

e. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection;
   iii. The results of any maintenance performed on the bagfilters; and
   iv. Any variance from manufacturer's recommendations, if any, and corrections made.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

f. The Permittee shall submit the results of any maintenance performed on the bagfilter within 30 days of a written request by the DAQ.

g. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section2.1.2 E.1.c through e above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.2 E.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. Compliance with the requirements of Section 2.1.2 E.1.c through E.1.g above will be sufficient to demonstrate compliance with 15A NCAC 02D .0521. If the monitoring and recordkeeping are not conducted as specified in Section 2.1.2 E.1.c through E.1.e above, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521.

2.1.2 F Polymer storage bin (ID No. 224) controlled by fabric filter (ID No. 320-215-478), ep224

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10 \times P^{0.67}$ (for process rates ≤ 30 tons per hour) Where: E = allowable emission rate in pounds per hour P = rock throughput in tons per hour	15A NCAC 02D .0515
Visible Emissions	40 percent opacity	15A NCAC 02D .0521
Toxic Air Pollutants	**State enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation:

$E = 4.10 \times P^{0.67}$ (for process rates less than or equal to 30 tons per hour)

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.2 F.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from the silos shall be controlled by the bagfilter. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. A monthly visual inspection of the system ductwork and material collection unit for leaks; and
   ii. An annual (for each 12-month period following the initial inspection) internal inspection of the bagfilter's structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork and bagfilters are not inspected and maintained.

d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection;
   iii. The results of any maintenance performed on the bagfilters; and
   iv. Any variance from manufacturer's recommendations, if any, and corrections made.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit the results of any maintenance performed on the bagfilter within 30 days of a written request by the DAQ.

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.2 F.1.c and F.1.d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources shall not be more than 40 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 40 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 90 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.2 F.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. Compliance with the requirements of Section 2.1.2 F.1.c through F.1.f above will be sufficient to demonstrate compliance with 15A NCAC 02D .0521. If the monitoring and recordkeeping are not conducted as specified in Section 2.1.2 F.1.c and F.1.d above, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521.

2.1.2 G Calcined/dried rock CTS (ID Nos. Belt25 and Belt26 to Belt27) controlled by enclosures, ep227

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 55.0 \times P^{0.11} - 40$ (for process rates > 30 tons per hour) Where: E = allowable emission rate in pounds per hour P = rock throughput in tons per hour	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation:

$E = 55.0 \times P^{0.11} - 40$ (for process rates greater than 30 tons per hour)

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.2 G.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from these sources shall be controlled by a building enclosure. To ensure compliance, the Permittee shall perform the following:
   i. A monthly visual inspection of the system enclosures for leaks; and
   ii. An annual (for each 12-month period following the initial inspection) internal inspection of the enclosure for structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the enclosure is not inspected and maintained.

d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection;
   iii. The results of any maintenance performed on the enclosures; and

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit the results of any maintenance performed on the enclosures within 30 days of a written request by the DAQ.

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.2 G.1.c and G.1.d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.2 G.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. To ensure compliance, once a month the Permittee shall observe the emission points of this source for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. If visible emissions from this source are observed to be above normal, the Permittee shall either:
   i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1.2 G.2.a above.

   The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required monthly observations are not conducted as required or if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made.

d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
   iii. The results of any corrective actions performed.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1.2 G.2.c and G.2.d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2.1.2 H Fugitive Emission Sources in the Mill Area

- **Mill Concentrator Fugitives (ID No. F290), ep290**
- **Calciner Plant Area Fugitives (ID No. F291), ep291**

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

2.1.3 Fertilizer Production Area

2.1.3 A Diammonium/Monoammonium Phosphate Plant No. 2, ep303

- **Residual oil/No. 2 fuel oil/natural gas-fired dryer (ID No. 505-104) controlled by a dryer duplex cyclone (ID No. 505-123A), a venturi wet scrubber (ID No. 505-125), and a packed tower tail gas scrubber with saddle-type packing and demister pads (ID No. 505-148)**
- **Material sizing and handling equipment (ID Nos. 505-107, 505-114, 505-110, and 505-143) controlled by an equipment cyclone (ID No. 505-123C), cooler venturi wet scrubber (ID No. 505-117), and a packed tower tail gas scrubber with saddle-type packing and demister pad (ID No. 505-148)**
- **Cooler (ID No. 505-111) controlled by a cooler duplex cyclone (ID No. 505-123B), a cooler venturi wet scrubber (ID No. 505-117), and a packed tower tail gas scrubber with saddle-type packing and demister pads (ID No. 505-148)**
- **Reactor (ID No. 505-121) and granulator (ID No. 505-103) controlled by a reactor-granulator venturi wet scrubber (ID No. 505-118) and a packed tower tail gas scrubber with saddle-type packing and demister pads (ID No. 505-148)**

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter PM_{10}	$E=9.377 \times P^{0.3067}$ Where E = allowable emission rate in pounds per hour P = production and recycle rate of fertilizer	15A NCAC 02D .0507
	64.1 pounds per hour, 238.5 tons per year	15A NCAC 02D .0530
	Compliance Assurance Monitoring (CAM) Plan	15A NCAC 02D .0614
Sulfur Dioxide	2.3 pounds per million Btu	15A NCAC 02D .0516
	15 pounds per hour	15A NCAC 02D .0530
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Total Fluorides	0.058 pounds per ton of equivalent P_2O_5 feed	15A NCAC 02D .0530
	Compliance Assurance Monitoring (CAM) Plan	15A NCAC 02D .0614
	0.055 pounds per ton of equivalent P_2O_5 feed	15A NCAC 02D .1100
	0.060 pounds per ton equivalent P_2O_5 feed	15A NCAC 02D.1111 (40 CFR Part 63, Subpart BB)
Sulfur Dioxide Particulate Matter PM_{10}, $PM_{2.5}$ Nitrogen Oxides Fluorides, Lead	**See Section 2.2 C.1**	15A NCAC 02D .0530(u)

1. 15A NCAC 02D .0507: PARTICULATES FROM CHEMICAL FERTILIZER MANUFACTURING PLANTS

a. Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation:

$E = 9.377 \times P^{0.3067}$

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.3 A.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0507.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. The monitoring, recordkeeping, and reporting requirements for demonstrating compliance given in Section 2.1.3 A.7.k through A.7.v below, as applicable, are deemed sufficient to demonstrate compliance with 15A NCAC 02D .0507. If the monitoring and recordkeeping are not conducted as specified in Section 2.1.3 A.7.k through A.7.r below, as applicable, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0507.

2. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source **(ID No. 505-104**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.3 A.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. No monitoring or recordkeeping is required for sulfur dioxide emissions for the firing of No. 2 diesel fuel or natural gas in the dryer **(ID No. 505-104).**

d. The maximum sulfur content of any residual fuel oil received and burned in the dryer **(ID No. 505-104)** shall not exceed 2.1 percent by weight. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if the sulfur content of the fuel oil exceeds this limit.

e. To ensure compliance, the Permittee shall monitor the sulfur content of the residual oil by using fuel oil supplier certification. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) on a quarterly basis and include the following information:
   i. The name of the fuel oil supplier;
   ii. The maximum sulfur content of the fuel oil received during the quarter;
   iii. The method used to determine the maximum sulfur content of the fuel oil; and
   iv. A certified statement signed by the responsible official that the records of fuel oil supplier certification submitted represent all of the fuel oil fired during the period.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if the sulfur content of the residual oil is not monitored and recorded.

Reporting [15A NCAC 02Q .0508(f)]

f. The Permittee shall submit a summary report of the fuel oil supplier certifications postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from the emission point shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.3 A.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. To ensure compliance, once a month the Permittee shall observe the emission points of this source for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. If visible emissions from this source are observed to be above normal, the Permittee shall either:
   i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1.3 A.3.a above.

   The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required monthly observations are not conducted as required or if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made.

d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
   iii. The results of any corrective actions performed.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.3 A.3.c and A.3.d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD), BACT

a. For DAP / MAP Plant No. 2 **(ep303),** the following table shall describe the emission standards:

Emission Source	Pollutant	Control Method	BACT Emission Limit
DAP/MAP Plant No. 2	Nitrogen oxides	Conventional combustion	14.7 pounds per hour
DAP/MAP Plant No. 2	VOC	Good engineering practices	N/A
DAP/MAP Plant No. 2	Sulfur dioxide	Scrubbing with process ammonia	15 pounds per hour
DAP/MAP Plant No. 2	Total fluorides	Venturi and packed bed scrubbers	0.058 pounds per ton of equivalent P_2O_5 feed
DAP/MAP Plant No. 2	TSP/PM_{10}	Venturi and packed bed scrubbers	64.1 pounds per hour

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.3 A.4.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

c. The Permittee shall demonstrate compliance with the fluoride and particulate matter emission limits above by testing the DAP / MAP Plant No. 2 **(ep303)** annually for fluoride and particulate matter. The normal production rate (hourly) shall be calculated by dividing the total annual production for the plant by the number of hours that the plant was operated during that year. The facility shall establish the normal production rate using the production records of over the last production year. Details of the emissions testing and requirements can be found in General Condition JJ. If the results of this test are above the limits given in Section 2.1.3 A.4.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

d. The Permittee shall demonstrate compliance with the nitrogen oxides and sulfur dioxide emission limits above by testing the DAP / MAP Plant No. 2 **(ep303)** once per every permit term for nitrogen oxides and sulfur dioxide. The normal production rate (hourly) shall be calculated by dividing the total annual production for the plant by the number of hours that the plant was operated during that year. The facility shall establish the normal production rate using the production records of over the last production year. Details of the emissions testing and requirements can be found in General Condition JJ. If the results of this test are above the limits given in Section 2.1.3 A.4.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

e. The Permittee shall demonstrate compliance with the fluorides emission limit given in Section 2.1.3 A.4.a above by monitoring and recording the mass flow rate of phosphorus bearing material to the process, the pressure drop across each wet scrubber, and flow rate of scrubbing liquid to each scrubber as described in Section 2.1.3 A.7.k through A.7.n below. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

f. The Permittee shall submit a summary report of monitoring, testing and recordkeeping activities given in Section 2.1.3 A.4.b through A.4.e above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING – PM_{10} and Total Fluorides

a. Per 40 CFR 64 and 15A NCAC 02D .0614, the Permittee shall comply with the following compliance assurance monitoring (CAM) requirements.

Background

b. Emission Units:
   i. Residual oil/No. 2 fuel oil/natural gas-fired dryer **(ID No. 505-104)**
   ii. Material sizing and handling equipment **(ID Nos. 505-107, 505-114, 505-110, and 505-143)**
   iii. Cooler **(ID No. 505-111)**
   iv. Granulator **(ID No. 505-103)** and reactor **(ID No. 505-121)**

c. Applicable Regulation, Emission Limit, and Monitoring Requirements
   i. Regulations:
      (A) 15A NCAC 02D .0530 for PM/PM_{10}
      (B) 15A NCAC 02D .0507 for PM
      (C) 15A NCAC 02D .0530 for Total fluorides
   ii. Emission limits:
      (A) 64.1 pounds per hour and 238.5 tons per year
      (B) Allowable emissions calculated as follows:
      $E = 9.377 \times P^{0.3067}$
      Where E = allowable emission rate in pounds per hour
      P = production and recycle rate of fertilizer
      (C) 0.058 pounds of Total fluorides per ton of equivalent P_2O_5 feed
   iii. Control Technology:
      (A) A dryer duplex cyclone **(ID No. 505-123A)**, a venturi wet scrubber **(ID No. 505-125),** and a packed tower tail gas scrubber with saddle-type packing and demister pads **(ID No. 505-148)**
      (B) An equipment cyclone **(ID No. 505-123C)**, cooler venturi wet scrubber **(ID No. 505-117)**, and a packed tower tail gas scrubber with saddle-type packing and demister pad **(ID No. 505-148)**
      (C) A cooler duplex cyclone **(ID No. 505-123B)**, a cooler venturi wet scrubber (ID No. 505-117), and a packed tower tail gas scrubber with saddle-type packing and demister pads **(ID No. 505-148)**
      (D) A reactor-granulator venturi wet scrubber **(ID No. 505-118)** and a packed tower tail gas scrubber with saddle-type packing and demister pads **(ID No. 505-148)**

Monitoring [15A NCAC 02D .0614, 15A NCAC 02D .0508(f)]

d. The Permittee shall continuously monitor the following parameters:
   i. The pressure drop across each scrubber; and
   ii. The water flow rate to each scrubber.

e. The monitoring requirements for demonstrating compliance with MACT Subpart BB given in Section 2.1.3 A.7.k through A.7.p below are deemed sufficient to demonstrate compliance with 15A NCAC 02D .614. If the monitoring is not conducted as specified in Section 2.1.3 A.7.k through A.7.p below, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0614.

f. Data Representativeness and QA/QC. The Permittee shall develop and implement a quality assurance program (QAP) for the device in accordance with the provisions of 15A NCAC 02D .0613. The QA/QC procedures specified in the

site-specific monitoring plan developed and implemented in accordance with Section 2.1.3 A.7.e below may be used as a QAP if they meet the requirements of 15A NCAC 02D .0613.

Recordkeeping and Reporting [15A NCAC 02Q .0508(f), 40 CFR 64.9]

g. The Permittee shall comply with the recordkeeping requirements of 40 CFR 64.9(b) and submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The reports shall comply with the reporting requirements of 40 CFR 64.9(a) and include, at a minimum, the following information, as applicable:
   i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
   ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
   iii. A description of the actions taken to implement a Quality Improvement Plan (QIP) during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the Permittee shall include, in the next summary report, documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances.

h. Compliance with reporting requirements of 40 CFR Part 63 Subpart BB as listed in Section 2.1.3 A.7.s and A.7.t below shall satisfy the reporting requirements of Section 2.1.3 A.5.g.i and A.5.g.ii above, provided the reports required in 40 CFR Part 63 Subpart BB are amended as follows:
   i. The report shall include the number of excursions or exceedance that occurred during the reporting period.
   ii. A description of any corrective actions taken shall be included with the summary report when the total duration of control system exceedances is less than 1 percent of the total operating time or the continuous monitoring system downtime is less than 5 percent of the total operating time.

State-enforceable only

6. 15A NCAC 02D .1100: TOXIC AIR POLLUTANT EMISSION LIMITATIONS AND REQUIREMENTS

a. In accordance with the approved application for an air toxic compliance demonstration and to ensure that limits described in Section 2.2 A.1 are not exceeded, the equivalent P_2O_5 feed rate to the Diammonium Phosphate Plant No. 2 **(ep303)** shall not exceed 2,562 tons per calendar day when producing MAP or DAP.

Testing

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ.

Monitoring/Recordkeeping

c. The Permittee shall use the production logbook (written or electronic format) as required in Section 2.1.3 A.7.k below to document the compliance with the above requirement.

Reporting

d. The Permittee shall submit a summary report of monitoring and recordkeeping postmarked on or before January 30 for the preceding six-month period between July and December and July 30 for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

7. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart BB, Phosphoric Fertilizer Production Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart BB, "NESHAP from Phosphate Fertilizer Production Plants," including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.621]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.621 shall apply.

General Provisions [40 CFR 63.628]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA. [40 CFR 63.628(a)]

d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.[40 CFR 63.628(b)]

e. The Permittee shall develop, and submit to the DAQ upon request, a site-specific monitoring plan for each continuous monitoring system (CMS) used to demonstrate compliance with any applicable emission limit or work practice standard. The plan must include the following information:
   i. Location of the CMS sampling probe or other interface.
   ii. Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems.
   iii. Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).
   iv. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1)(ii), (c)(3), (c)(4)(ii), and Table 4 to 40 CFR Subpart BB.
   v. Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d)(1) and (2) and Table 5 to 40 CFR Subpart BB.
   vi. Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i).
   vii. A schedule for conducting initial and subsequent performance evaluations.
   viii. The program of corrective action required under 40 CFR 63.8(d)(2).

   The Permittee shall maintain the site-specific monitoring plan on site for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the DAQ. If the site-specific monitoring plan is revised, the Permittee shall maintain previous (*i.e.*, superseded) versions of the plan on site to be made available for inspection, upon request, by the DAQ, for a period of 5 years after each revision to the plan. [40 CFR 63.628(c)]

Emission Limits [15A NCAC 02Q .0508(f), 40 CFR 63.622(a)]

f. The Permittee shall not cause to be discharged into the atmosphere from any affected source any gases which contain total fluorides in excess of 0.060 pounds / ton equivalent P_2O_5 feed. [40 CFR 63.622(a), Table 1 to Subpart BB]

Testing [15A NCAC 02Q .0508(f), 40 CFR 63.626]

g. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.3 A.7.f above., the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

h. The Permittee shall conduct performance tests on the fertilizer plant **(ep303)** once per calendar year in accordance with General Condition JJ and the following paragraphs. The Permittee shall use as reference methods and procedures the test methods in 40 CFR Part 60, Appendix A or other methods and procedures as specified in 40 CFR 63.626. [40 CFR 63.626(b) and (e)]
   i. The fertilizer plants shall be tested annually at representative (normal) conditions for the process. Representative (normal) conditions mean those conditions that:
      (A) Represent the range of combined process and control measure conditions under which the calciner expects to operate (regardless of the frequency of the conditions); and
      (B) Are likely to most challenge the emissions control measures of the calciner with regard to meeting the emission standards in Section 2.1.3 A.7.f above but without creating an unsafe condition. Operations during startup, shutdown, and malfunction do not constitute representative (normal) operating conditions for purposes of conducting a performance test.

      [40 CFR 63.626(d)(1)]
   ii. The Permittee shall record the process information that is necessary to document the operating conditions during the test and include in such record an explanation to support that such conditions represent representative (normal) conditions. Upon request, the Permittee shall make available to DAQ such records as may be necessary to determine the conditions of performance tests. [40 CFR 63.626(d)(2)]

iii. During the most recent performance test, if compliance is demonstrated with the emission limit while operating the control device outside the previously established operating limit, the Permittee shall establish a new operating limit based on that most recent performance test and notify DAQ that the operating limit changed based on data collected during the most recent performance test. [40 CFR 63.627(a)]
(A) When the fertilizer plant is retested and the performance test results are submitted to DAQ, the Permittee shall indicate whether the operating limit is based on the new performance test or the previously established limit.
(B) Upon establishment of a new operating limit, the Permittee shall thereafter operate under the new operating limit. If DAQ determines that the Permittee did not conduct the compliance test in accordance with the applicable requirements or that the operating limit established during the performance test does not correspond to representative (normal) conditions, the Permittee shall conduct a new performance test and establish a new operating limit.

If the results of the performance test are above the limit given in Section 2.1.3 A.7.f above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111. [40 CFR 63.626(b)]

i. For the fertilizer plant **(ep303)** that has not operated since the previous annual performance test was conducted and more than 1 year has passed since the previous performance test, the Permittee shall conduct a performance test no later than 180 days after the re-start of the fertilizer plant according to the applicable provisions in 40 CFR 63.7(a)(2). [40 CFR 63.626(c)]

j. If the new parametric operating values re-established during periodic testing are more stringent than the current operating ranges or limits, the Permittee shall submit a request to revise the value(s) in the permit at the same time the test report required pursuant to General Condition JJ is submitted. The permit revision will be processed pursuant to 15A NCAC 02Q .0514. If, during performance testing, the new parametric operating values are less stringent, the Permittee may request to revise the value(s) in the permit pursuant to 15A NCAC 02Q .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f), 40 CFR 63.625]

k. The Permittee shall install, calibrate, maintain, and operate a monitoring system that can be used to determine and permanently record the mass flow of phosphorus-bearing feed material to the process. The monitoring system shall have an accuracy of ±5 percent over its operating range. The results of the monitoring shall be recorded in a logbook (electronic or written form). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if this monitoring system is not maintained, calibrated, operated, and the results recorded. [40 CFR 63.625(a)(1)]

l. The Permittee shall maintain a daily record of equivalent P_2O_5 feed by first determining the total mass rate in short ton/hour of phosphorus bearing feed using a monitoring system for measuring mass flow rate and then by proceeding according to 40 CFR 63.626(f)(3). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 these records are not maintained. [40 CFR 63.625(a)(2)]

m. For the control devices used to comply with the emission limit specified in Section 2.1.3 A.7.f above, the Permittee shall install a continuous parameter monitoring system (CPMS) and comply with following requirements
i. The Permittee shall monitor the influent liquid flow and/or pressure drop through each absorber and establish the applicable limit or range for these operating parameter limits as specified in 40 CFR 63.625(d)(1)(i) and (ii). [40 CFR 63.625(d)(1)].
ii. The Permittee shall continuously monitor the minimum liquid flow and pressure drop through each adsorber; record the minimum liquid inlet flow and pressure drop through the each adsorber every fifteen (15) minutes and compute daily averages to demonstrate continuous compliance with the minimum liquid flow and pressure drop. The monitoring system shall be certified by the manufacturer to have an accuracy of ±5 percent over its operating range and shall be calibrated in accordance with Table 5 of 40 CFR 63 Subpart BB. [40 CFR 63.625(d)(2) and (3)].

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these monitoring systems are not maintained, calibrated, operated, and the results recorded.

n. For the DAP/MAP Plant No. 2 **(ep303)**, the Permittee has established the allowed ranges for the minimum liquid influent flow and the pressure drop by conducting performance tests as specified in 40 CFR 63.625(d)(1) and 40 CFR 63.626. The allowed ranges and limits are provided below:
i. Reactor/Granulator/Cooler Tail Gas Scrubber **(ID No. 505-148)** - Pressure drop: 7.8 to 21.2 inches of water; minimum influent liquid flow rate: 2,327 gpm;
ii. Cooler Scrubber **(ID No. 505-117)** - Pressure drop: 6.2 to 17.0 inches of water; minimum influent liquid flow rate: 840 gpm;
iii. Reactor/Granulator acid scrubber **(ID No. 505-118)** - Pressure drop: 7.0 to 18.4 inches of water; minimum influent liquid flow rate: 660 gpm;
iv. Dryer/Scrubber **(ID No. 505-125)** - Pressure drop: 10.5 to 20.0 inches of water; minimum influent liquid flow rate: 516 gpm; and

v. Dryer Tail Gas Scrubber **(ID No. 505-148)** - Pressure drop: 8.0 to 14.5 inches of water; minimum influent liquid flow rate: 1,138 gpm.

If the daily averages of the pressure drop or the minimum influent liquid flow are below the allowable limits an exceedance will have occurred.

o. The Permittee shall demonstrate compliance with the emissions standards in Section 2.1.3 A.7.f above using the procedures in 40 CFR 63.626(f) through (g). In computing averages to determine compliance the Permittee shall exclude the monitoring data specified below. [40 CFR 63.626 and 63.627(d)]
   i. Periods of non-operation of the DAP/MAP plants;
   ii. Periods of no flow to the scrubbers; and any monitoring data recorded during CPMS breakdowns, out-of-control periods, repairs, maintenance periods, instrument adjustments or checks to maintain precision and accuracy, calibration checks, and zero (low-level), mid-level (if applicable), and high-level adjustments in computing the daily average of minimum influent liquid flow or pressure drops to the scrubbers.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the average monitoring parameters are not calculated as required above.

p. The Permittee shall conduct a performance evaluation, as specified in 40 CFR 63.8(e), in accordance with the site-specific monitoring plan required in Section 2.1.3 A.7.e above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the performance evaluation is not conducted as required. [40 CFR 63.626(h)]

q. The Permittee shall record in a logbook (written or electronic format) the following:
   i. A daily record of phosphate rock feed by determining the total mass rate in short ton/hour of phosphorus bearing feed using a monitoring system for measuring mass flow rate. [40 CFR 63.625(a)(2)]
   ii. Influent liquid flow and pressure drop. [40 CFR 63.625(d)(2)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these records are not kept or if any exceedances of the limits in Section 2.1.3 A.7.f above are not determined.

r. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years. [40 CFR 63.627(b)(1) and (c)] The Permittee shall be deemed in noncompliance if these requirements are not met.

Start-up, Shutdown, and Malfunction Procedures [40 CFR 63.622(d)]

s. During periods of startup and shutdown, as defined in 40 CFR 63.621, the Permittee shall comply with the work practice specified in this paragraph in lieu of the emission limits specified above in Section 2.1.3 A.7.f above. During periods of startup and shutdown, the Permittee shall operate any control device(s) being used at the affected source, monitor the influent liquid flow and pressure drop in accordance with Section 2.1.3 A.7.m above, and comply with the operating limits specified in Section 2.1.3 A.7.n. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Reporting [15A NCAC 02Q .0508(f)]

t. Summary report. If the total duration of control system exceedances for the reporting period is less than 1 percent of the total operating time for the reporting period or if CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, the Permittee shall submit a summary report containing the information specified in 40 CFR 63.10(e)(3)(iv) rather than the full excess emissions report. The summary report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. [40 CFR 63.627(b)(5), 40 CFR 63.10(e)(3)(vii)]

u. Excess emissions report. If the total duration of control system operating parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period or if the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Permittee shall submit both a Summary Report and an excess emissions report for any exceedance of an operating parameter limit. The report shall contain the information specified in 40 CFR 63.10 and 40 CFR 63.627(b)(4). The report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. If exceedances are reported, the Permittee shall report quarterly until a request to reduce reporting frequency is approved as described in 40 CFR 63.10. [40 CFR 63.627(b)(3) and (5), 40 CFR 63.10(e)(3)(viii)]

v. EPA Electronic Reporting Tool. Within 60 days after the date of completing each performance test (defined in 40 CFR 63.2) as required by 40 CFR Part 63 Subpart BB, the Permittee shall submit the results of the performance tests,

including any associated fuel analyses, to the DAQ pursuant to 40 CFR 63.10(d)(2) and to the EPA via the procedures in 40 CFR 63.627(e).

w. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the reporting requirements in Section 2.1.3 A.7.t through A.7.v above are not met.

2.1.3 B Diammonium /Monoammonium Phosphate Plant No. 3, ep302

- **First stage reactor (ID No. 511-085), second stage reactor (ID No. 511-086) and granulator (ID No. 511-070) controlled by a saturation chamber (ID No. 511-107A), wet cyclonic scrubber (ID No. 511-107B), and cyclonic tail gas scrubber (ID No. 511-105)**
- **Residual oil/No. 2 fuel oil/natural gas-fired dryer (ID No. 511-032) controlled by a dryer quad cyclone (ID No. 511-028), two-stage dryer wet cyclone scrubber (ID No. 511-103), and cyclonic tail gas scrubber (ID No. 511-105)**
- **Cooler and other miscellaneous material handling points (ID No. 511-025) controlled by a cooler dual cyclone (ID No. 511-029), cooler wet cyclonic scrubber (ID No. 511-106), and cyclonic tail gas scrubber (ID No. 511-105)**
- **Process sizing and handling equipment (ID Nos. 511-008, 511-009, 511-010, 511-011, 511-016, 511-017, 511-038, 511-039, 511-041, 511-093, 511-094, 511-095, and 511-096) controlled by a dust dual cyclone (ID No. 511-029), dust wet cyclonic scrubber (ID No. 511-106), and cyclonic tail gas scrubber (ID No. 511-104)**

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter PM_{10}	$E=9.377 \times P^{0.3067}$ Where: E = allowable emission rate in pounds per hour P = production and recycle rate of fertilizer	15A NCAC 02D .0507
	72.0 tons per consecutive 12-month period	15A NCAC 02Q .0317 (Avoidance of 15A NCAC 02D .0530)
	Compliance Assurance Monitoring (CAM) Plan	15A NCAC 02D .0614
Sulfur Dioxide	2.3 pounds per million Btu	15A NCAC 02D .0516
	226.2 tons consecutive 12-month period	15A NCAC 02Q .0317 (Avoidance of 15A NCAC 02D .0530)
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Total Fluorides	0.058 pounds per ton of equivalent P_2O_5 feed	15A NCAC 02D .0530
	Compliance Assurance Monitoring (CAM) Plan	15A NCAC 02D .0614
	0.055 pounds per ton of equivalent P_2O_5 feed	15A NCAC 02D .1100
	0.060 pounds per ton equivalent P_2O_5 feed	15A NCAC 02D.1111 (40 CFR Part 63, Subpart BB)

1. 15A NCAC 02D .0507: PARTICULATES FROM CHEMICAL FERTILIZER MANUFACTURING PLANTS

a. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation:

$E = 9.377 \times P^{0.3067}$

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.3 B.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0507.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. The monitoring, recordkeeping, and reporting requirements for demonstrating compliance given in Section 2.1.3 B.7.k through B.7.v below, as applicable, are deemed sufficient to demonstrate compliance with 15A NCAC 02D .0507. If the monitoring and recordkeeping are not conducted as specified in Section 2.1.3 B.7.k through B.7.r below, as applicable, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0507.

2. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source **(ID No. 511-032)** shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.3 B.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. No monitoring or recordkeeping is required for sulfur dioxide emissions for the firing of No. 2 diesel fuel or natural gas in the dryer **(ID No. 511-032).**

d. The maximum sulfur content of any residual fuel oil received and burned in the dryer **(ID No. 511-032)** shall not exceed 2.1 percent by weight. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if the sulfur content of the fuel oil exceeds this limit.

e. To ensure compliance, the Permittee shall monitor the sulfur content of the residual oil by using fuel oil supplier certification per shipment received. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) on a quarterly basis and include the following information:
   i. The name of the fuel oil supplier;
   ii. The maximum sulfur content of the fuel oil received during the quarter;
   iii. The method used to determine the maximum sulfur content of the fuel oil; and
   iv. A certified statement signed by the responsible official that the records of fuel oil supplier certification submitted represent all of the fuel oil fired during the period.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if the sulfur content of the residual oil is not monitored and recorded.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the fuel oil supplier certifications postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from the any emission point shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.3 B.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. To ensure compliance, once a month the Permittee shall observe the emission points of this source for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. If visible emissions from this source are observed to be above normal, the Permittee shall either:
   i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or

ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1.3 B.3.a above.

The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required monthly observations are not conducted as required or if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made.

d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
   iii. The results of any corrective actions performed.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.3 B.3.c and B.3.d above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD), BACT

a. For DAP/MAP Plant No. 3 **(ep302),** the following table shall describe the emission standards:

Emission Source	Pollutant	Control Method	BACT Emission Limit
DAP/MAP Plant No. 3	Total fluoride (F)	Dual mole scrubbing	0.058 lb/ton P_2O_5 feed

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.2 B.4.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

c. The Permittee shall demonstrate compliance with the fluoride emission limits above by testing DAP/MAP Plant No. 3 **(ep302)** annually for fluoride. The normal production rate (hourly) shall be calculated by dividing the total annual production for the plant by the number of hours that the plant was operated during that year. The facility shall establish the normal production rate using the production records of over the last production year. Details of the emissions testing and requirements can be found in General Condition JJ. If the results of this test are above the limits given above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

d. The Permittee shall maintain in a logbook (written or electronic format) production data sufficient to document the calculation of the normal production rate for determining the appropriate production rates at which to conduct the testing described above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these records are not maintained.

e. The Permittee shall demonstrate compliance with the fluorides emission limits given above by monitoring and recording the mass flow rate of phosphorus bearing material to the process, the pressure drop across each wet scrubber, and flow rate of scrubbing liquid to each scrubber as described in Section 2.1.3 B.7.k through B.7.n below. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

f. The Permittee shall submit a summary report of monitoring, testing, and recordkeeping activities given in Section 2.1.3 B.4.b through B.4.e above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING – PM_{10} and Total Fluorides

a. Per 40 CFR 64 and 15A NCAC 02D .0614, the Permittee shall comply with the following compliance assurance monitoring (CAM) requirements.

Background

b. Emission Units:
   i. First stage reactor **(ID No. 511-085)**, second stage reactor **(ID No. 511-086)** and granulator **(ID No. 511-070**)
   ii. Residual oil/No. 2 fuel oil/natural gas-fired dryer **(ID No. 511-032)**
   iii. Cooler and other miscellaneous material handling points **(ID No. 511-025)**
   iv. Process sizing and handling equipment **(ID Nos. 511-008, 511-009, 511-010, 511-011, 511-016, 511-017, 511-038, 511-039, 511-041, 511-093, 511-094, 511-095, and 511-096)**

c. Applicable Regulation, Emission Limit, and Monitoring Requirements
   i. Regulations:
      (A) 15A NCAC 02D .0507 for PM
      (B) 15A NCAC 02D .0530 for Total fluorides
   ii. Emission limits:
      (A) Allowable emissions calculated as follows:
      $E = 9.377 \times P^{0.3067}$
      Where E = allowable emission rate in pounds per hour
      P = production and recycle rate of fertilizer
      (B) 0.058 pounds of Total fluorides per ton of equivalent P_2O_5 feed
   iii. Control Technology:
      (A) A saturation chamber **(ID No. 511-107A)**, wet cyclonic scrubber **(ID No. 511-107B)**, and cyclonic tail gas scrubber **(ID No. 511-105)**
      (B) A dryer quad cyclone **(ID No. 511-028)**, two-stage dryer wet cyclone scrubber **(ID No. 511-103),** and cyclonic tail gas scrubber **(ID No. 511-105)**
      (C) A cooler dual cyclone **(ID No. 511-029)**, cooler wet cyclonic scrubber **(ID No. 511-106),** and cyclonic tail gas scrubber **(ID No. 511-105)**
      (D) A dust dual cyclone **(ID No. 511-029),** dust wet cyclonic scrubber **(ID No. 511-104),** and cyclonic tail gas scrubber **(ID No. 511-105)**

Monitoring [15A NCAC 02D .0614, 15A NCAC 02D .0508(f)]

d. The Permittee shall continuously monitor the following parameters:
   i. The pressure drop across each scrubber; and
   ii. The water flow rate to the scrubber.

e. The monitoring requirements for demonstrating compliance with MACT Subpart BB given in Section 2.1.3 B.7.k through B.7.p below are deemed sufficient to demonstrate compliance with 15A NCAC 02D .614. If the monitoring is not conducted as specified in Section 2.1.3 B.7.k through B.7.p below, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0614.

f. Data Representativeness and QA/QC. The Permittee shall develop and implement a quality assurance program (QAP) for the device in accordance with the provisions of 15A NCAC 02D .0613. The QA/QC procedures specified in the site-specific monitoring plan developed and implemented in accordance with Section 2.1.3 B.7.e below may be used as a QAP if they meet the requirements of 15A NCAC 02D .0613.

Recordkeeping and Reporting [15A NCAC 02Q .0508(f), 40 CFR 64.9]

g. The Permittee shall comply with the recordkeeping requirements of 40 CFR 64.9(b) and submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The reports shall comply with the reporting requirements of 40 CFR 64.9(a) and include, at a minimum, the following information, as applicable:
   i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
   ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

iii. A description of the actions taken to implement a Quality Improvement Plan (QIP) during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the Permittee shall include, in the next summary report, documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances.

h. Compliance with reporting requirements of 40 CFR Part 63 Subpart BB as listed in Section 2.1.3 B.7.s and B.7.t below shall satisfy the reporting requirements of Section 2.13 B.5.g.i and ii above, provided the reports required in 40 CFR Part 63 Subpart BB are amended as follows:
   i. The report shall include the number of excursions or exceedance that occurred during the reporting period.
   ii. A description of any corrective actions taken shall be included with the summary report when the total duration of control system exceedances is less than 1 percent of the total operating time or the continuous monitoring system downtime is less than 5 percent of the total operating time.

State-enforceable only

6. 15A NCAC 02D .1100: TOXIC AIR POLLUTANT EMISSION LIMITATIONS AND REQUIREMENTS

a. In accordance with the approved application for an air toxic compliance demonstration and to ensure that limits described in Section 2.2 A.1 are not exceeded, the following operational limits shall not be exceeded:
   i. The equivalent P_2O_5 feed rate to the DAP/MAP Plant No. **(ep302)** shall not exceed 1,188 tons per calendar day when producing MAP.
   ii. The equivalent P_2O_5 feed rate to the DAP/MAP Plant No. **(ep302)** shall not exceed 1,188 tons per calendar day when producing DAP.
   iii. The equivalent P_2O_5 feed rate to the DAP/MAP Plant No. **(ep302)** shall not exceed 840 tons per calendar day when producing PAPR.

Testing

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ.

Monitoring/Recordkeeping

c. The Permittee shall use the production logbook (written or electronic form), as required in Section 2.1.3 B.7.k below to document the compliance with the above requirement.

Reporting

d. The Permittee shall submit a summary report of monitoring and recordkeeping postmarked on or before January 30 for the preceding six-month period between July and December and July 30 for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

7. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart BB, Phosphoric Fertilizer Production Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart BB, "NESHAP from Phosphate Fertilizer Production Plants," including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.621]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.621 shall apply.

General Provisions [40 CFR 63.628]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA. [40 CFR 63.628(a)]

d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.[40 CFR 63.628(b)]

e. The Permittee shall develop, and submit to the DAQ upon request, a site-specific monitoring plan for each continuous monitoring system (CMS) used to demonstrate compliance with any applicable emission limit or work practice standard. The plan must include the following information:
   i. Location of the CMS sampling probe or other interface.
   ii. Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems.
   iii. Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).
   iv. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1)(ii), (c)(3), (c)(4)(ii), and Table 4 to 40 CFR Subpart BB.
   v. Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d)(1) and (2) and Table 5 to 40 CFR Subpart BB.
   vi. Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i).
   vii. A schedule for conducting initial and subsequent performance evaluations.
   viii. The program of corrective action required under 40 CFR 63.8(d)(2).

   The Permittee shall maintain the site-specific monitoring plan on site for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the DAQ. If the site-specific monitoring plan is revised, the Permittee shall maintain previous (*i.e.*, superseded) versions of the plan on site to be made available for inspection, upon request, by the DAQ, for a period of 5 years after each revision to the plan. [40 CFR 63.628(c)]

Emission Limits [15A NCAC 02Q .0508(f), 40 CFR 63.622(a)]

f. The Permittee shall not cause to be discharged into the atmosphere from any affected source any gases which contain total fluorides in excess of 0.060 pounds / ton equivalent P_2O_5 feed. [40 CFR 63.622(a), Table 1 to Subpart BB]

Testing [15A NCAC 02Q .0508(f), 40 CFR 63.626]

g. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.3 B.7.f above., the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

h. The Permittee shall conduct performance tests on the fertilizer plant **(ep302)** once per calendar year in accordance with General Condition JJ and the following paragraphs. The Permittee shall use as reference methods and procedures the test methods in 40 CFR Part 60, Appendix A or other methods and procedures as specified in 40 CFR 63.626. [40 CFR 63.626(b) and (e)]
   i. The fertilizer plants shall be tested annually at representative (normal) conditions for the process. Representative (normal) conditions mean those conditions that:
      (A) Represent the range of combined process and control measure conditions under which the calciner expects to operate (regardless of the frequency of the conditions); and
      (B) Are likely to most challenge the emissions control measures of the calciner with regard to meeting the emission standards in Section 2.1.3 B.7.f above but without creating an unsafe condition. Operations during startup, shutdown, and malfunction do not constitute representative (normal) operating conditions for purposes of conducting a performance test.

      [40 CFR 63.626(d)(1)]
   ii. The Permittee shall record the process information that is necessary to document the operating conditions during the test and include in such record an explanation to support that such conditions represent representative (normal) conditions. Upon request, the Permittee shall make available to DAQ such records as may be necessary to determine the conditions of performance tests. [40 CFR 63.626(d)(2)]
   iii. During the most recent performance test, if compliance is demonstrated with the emission limit while operating the control device outside the previously established operating limit, the Permittee shall establish a new operating limit based on that most recent performance test and notify DAQ that the operating limit changed based on data collected during the most recent performance test. [40 CFR 63.627(a)]
      (A) When the fertilizer plant is retested and the performance test results are submitted to DAQ, the Permittee shall indicate whether the operating limit is based on the new performance test or the previously established limit.
      (B) Upon establishment of a new operating limit, the Permittee shall thereafter operate under the new operating limit. If DAQ determines that the Permittee did not conduct the compliance test in accordance with the applicable requirements or that the operating limit established during the performance test does not correspond to representative (normal) conditions, the Permittee shall conduct a new performance test and establish a new operating limit.

If the results of the performance test are above the limit given in Section 2.1.3 B.7.f above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111. [40 CFR 63.626(b)]

i. For the fertilizer plant **(ep302)** that has not operated since the previous annual performance test was conducted and more than 1 year has passed since the previous performance test, the Permittee shall conduct a performance test no later than 180 days after the re-start of the fertilizer plant according to the applicable provisions in 40 CFR 63.7(a)(2). [40 CFR 63.626(c)]

j. If the new parametric operating values re-established during periodic testing are more stringent than the current operating ranges or limits, the Permittee shall submit a request to revise the value(s) in the permit at the same time the test report required pursuant to General Condition JJ is submitted. The permit revision will be processed pursuant to 15A NCAC 02Q .0514. If, during performance testing, the new parametric operating values are less stringent, the Permittee may request to revise the value(s) in the permit pursuant to 15A NCAC 02Q .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f), 40 CFR 63.625]

k. The Permittee shall install, calibrate, maintain, and operate a monitoring system that can be used to determine and permanently record the mass flow of phosphorus-bearing feed material to the process. The monitoring system shall have an accuracy of ±5 percent over its operating range. The results of the monitoring shall be recorded in a logbook (electronic or written form). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if this monitoring system is not maintained, calibrated, operated, and the results recorded. [40 CFR 63.625(a)(1)]

l. The Permittee shall maintain a daily record of equivalent P_2O_5 feed by first determining the total mass rate in short ton/hour of phosphorus bearing feed using a monitoring system for measuring mass flow rate and then by proceeding according to 40 CFR 63.626(f)(3). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 these records are not maintained. [40 CFR 63.625(a)(2)]

m. For the control devices used to comply with the emission limit specified in Section 2.1.3 B.7.f above, the Permittee shall install a continuous parameter monitoring system (CPMS) and comply with following requirements
   i. The Permittee shall monitor the influent liquid flow and/or pressure drop through each absorber and establish the applicable limit or range for these operating parameter limits as specified in 40 CFR 63.625(d)(1)(i) and (ii). [40 CFR 63.625(d)(1)].
   ii. The Permittee shall continuously monitor the minimum liquid flow and pressure drop through each adsorber; record the minimum liquid inlet flow and pressure drop through the each adsorber every fifteen (15) minutes and compute daily averages to demonstrate continuous compliance with the minimum liquid flow and pressure drop. The monitoring system shall be certified by the manufacturer to have an accuracy of ±5 percent over its operating range and shall be calibrated in accordance with Table 5 of 40 CFR 63 Subpart BB. [40 CFR 63.625(d)(2) and (3)].

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these monitoring systems are not maintained, calibrated, operated, and the results recorded.

n. For DAP/MAP Plant No. 3 **(ep302)**, the Permittee has established the allowed ranges for the minimum liquid influent flow and the pressure drop, as applicable, by conducting performance tests as specified in 40 CFR 63.625(d)(1) and 40 CFR 63.626. The allowed ranges and limits are provided below:
   i. Low Mole (scrubber) **(ID No. 511-107B)** – Pressure drop: 9.4 to 16.1inches of water; minimum influent liquid flow: 867 gpm
   ii. High Mole (saturation chamber) **(ID No. 511-107A)** – Minimum influent liquid flow: 1,070 gpm
   iii. Dust scrubber **(ID No. 511-104)** – Pressure drop: 4.4 to 9.0 inches of water; minimum influent liquid flow: 300 gpm
   iv. Cooler scrubber **(ID No. 511-106)** – Pressure drop: 4.3 to 11.3 inches of water; minimum influent liquid flow: 400 gpm
   v. Dryer No. 1 scrubber **(ID No. 511-103)** – Pressure drop: 6.8 to 10.2 inches of water; Minimum influent liquid flow: 600 gpm
   vii. Dryer No. 2 scrubber **(ID No. 511-103)** – Minimum influent liquid flow: 367 gpm
   viii. Tailgas scrubber **(ID No. 511-105)** – Pressure drop: 3.4 to 5.1 inches of water; minimum influent liquid flow: 1,088 gpm

   If the daily averages of the pressure drop or the minimum influent liquid flow are below the allowable limits an exceedance will have occurred.

o. The Permittee shall demonstrate compliance with the emissions standards in Section 2.1.3 B.7.f above using the procedures in 40 CFR 63.626(f) through (g). In computing averages to determine compliance the Permittee shall exclude the monitoring data specified below. [40 CFR 63.626 and 63.627(d)]
   i. Periods of non-operation of the DAP/MAP plants;
   ii. Periods of no flow to the scrubbers; and any monitoring data recorded during CPMS breakdowns, out-of-control periods, repairs, maintenance periods, instrument adjustments or checks to maintain precision and accuracy,

calibration checks, and zero (low-level), mid-level (if applicable), and high-level adjustments in computing the daily average of minimum influent liquid flow or pressure drops to the scrubbers.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the average monitoring parameters are not calculated as required above.

p. The Permittee shall conduct a performance evaluation, as specified in 40 CFR 63.8(e), in accordance with the site-specific monitoring plan required in Section 2.1.3 B.7.e above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the performance evaluation is not conducted as required. [40 CFR 63.626(h)]

q. The Permittee shall record in a logbook (written or electronic format) the following:
   i. A daily record of phosphate rock feed by determining the total mass rate in short ton/hour of phosphorus bearing feed using a monitoring system for measuring mass flow rate. [40 CFR 63.625(a)(2)]
   ii. Influent liquid flow and pressure drop. [40 CFR 63.625(d)(2)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these records are not kept or if any exceedances of the limits in Section 2.1.3 B.7.f above are not determined.

r. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years. [40 CFR 63.627(b)(1) and (c)] The Permittee shall be deemed in noncompliance if these requirements are not met.

Start-up, Shutdown, and Malfunction Procedures [40 CFR 63.622(d)]

s. During periods of startup and shutdown, as defined in 40 CFR 63.621, the Permittee shall comply with the work practice specified in this paragraph in lieu of the emission limits specified above in Section 2.1.3 B.7.f above. During periods of startup and shutdown, the Permittee shall operate any control device(s) being used at the affected source, monitor the influent liquid flow and pressure drop in accordance with Section 2.1.3 B.7.m above, and comply with the operating limits specified in Section 2.1.3 B.7.n above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Reporting [15A NCAC 02Q .0508(f)]

t. Summary report. If the total duration of control system exceedances for the reporting period is less than 1 percent of the total operating time for the reporting period or if CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, the Permittee shall submit a summary report containing the information specified in 40 CFR 63.10(e)(3)(iv) rather than the full excess emissions report. The summary report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. [40 CFR 63.627(b)(5), 40 CFR 63.10(e)(3)(vii)]

u. Excess emissions report. If the total duration of control system operating parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period or if the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Permittee shall submit both a Summary Report and an excess emissions report for any exceedance of an operating parameter limit. The report shall contain the information specified in 40 CFR 63.10 and 40 CFR 63.627(b)(4). The report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. If exceedances are reported, the Permittee shall report quarterly until a request to reduce reporting frequency is approved as described in 40 CFR 63.10. [40 CFR 63.627(b)(3) and (5), 40 CFR 63.10(e)(3)(viii)]

v. EPA Electronic Reporting Tool. Within 60 days after the date of completing each performance test (defined in 40 CFR 63.2) as required by 40 CFR Part 63 Subpart BB, the Permittee shall submit the results of the performance tests, including any associated fuel analyses, to the DAQ pursuant to 40 CFR 63.10(d)(2) and to the EPA via the procedures in 40 CFR 63.627(e).

w. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the reporting requirements in Section 2.1.3 B.7.t through B.7.v above are not met.

8. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The emissions from DAP/MAP Plant No. 3 **(ep302)** shall not exceed the following limits:
   i. SO_2 emissions shall not exceed 226.2 tons per consecutive 12-month period.

ii. PM_{10} emissions shall not exceed 72.0 tons per consecutive 12-month period.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.3 B.8.a.i or B.8.a.ii above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Each calendar month, the Permittee shall determine the SO_2 and PM_{10} emissions from DAP/MAP Plant No. 3 **(ep302)** during the previous calendar month and the previous consecutive 12-month period. Records of the required calculations listed above shall be recorded monthly in a logbook (written or electronic format). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these records are not retained, or if the consecutive 12-month SO_2 or PM_{10} emission rate exceeds the relevant limit in Section 2.1.3 B.8.a.i or B.8.a.ii above.

Reporting [15A NCAC 02Q .0508(f)]

d. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.3 B.8.c above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the following:
   i. The monthly SO_2 and PM_{10} emissions from the DAP/MAP Plant No. 3 for the previous 17 months; and
   ii. The consecutive 12-month rolling SO_2 and PM_{10} emissions from DAP/MAP Plant No. 3 for each of the six consecutive 12-month periods ending during the reporting period.

   All instances of deviations from the requirements of this permit must be clearly identified.

2.1.3 C Ammonium Polyphosphate Plant (ID No. APP-1), ep304

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	**State enforceable only** The equivalent P_2O_5 feed rate shall not exceed 550 tons per calendar day	15A NCAC 02D .1100
	State enforceable only **See Section 2.2 A.1 and Attachment 1**	
Sulfur Dioxide Particulate Matter Nitrogen Oxides	**See Section 2.2 B.1**	15A NCAC 02D .0530(u)

State-enforceable only

1. 15A NCAC 02D .1100: TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REQUIREMENT

a. In accordance with the approved air toxic compliance demonstration and to ensure that limits described in Section 2.2 A.1 are not exceeded, the equivalent P_2O_5 feed rate to the Ammonium Polyphosphate Plant **(ID No. APP-1)** shall not exceed 550 tons per calendar day.

Monitoring/Recordkeeping

b. The Permittee shall install, calibrate, maintain, and operate a monitoring system that can be used to determine and record the mass flow of phosphorus-bearing feed material to the process. The monitoring system shall have an accuracy of ±5 percent over its operating range. The results of the monitoring shall be recorded in a logbook (electronic or written form) to document the compliance with the above requirement.

Reporting

c. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.3 C.1.b above, postmarked on or before January 30 for the preceding six-month period between July and December and July 30 for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2.1.3 D Ammonium Polyphosphate Plant – Line 2 (ID No. 454-200), ep306

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	**State enforceable only** The equivalent P_2O_5 feed rate shall not exceed 550 tons per calendar day	15A NCAC 02D .1100
	State enforceable only **See Section 2.2 A.1 and Attachment 1**	
Sulfur Dioxide Particulate Matter Nitrogen Oxides	**See Section 2.2 B.1**	15A NCAC 02D .0530(u)
N/A	Submit Title V permit application within one year from the date of beginning operation of applicable sources **See Section 2.2 B.2**	15A NCAC 02Q .0504

State-enforceable only

1. 15A NCAC 02D .1100: TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REQUIREMENT

a. In accordance with the approved air toxic compliance demonstration and to ensure that limits described in Section 2.2 A.1 are not exceeded, the equivalent P_2O_5 feed rate to Ammonium Polyphosphate Plant – Line 2 **(ID No. 454-200)** shall not exceed 550 tons per calendar day.

Monitoring/Recordkeeping

b. The Permittee shall install, calibrate, maintain, and operate a monitoring system that can be used to determine and record the mass flow of phosphorus-bearing feed material to the process. The monitoring system shall have an accuracy of ±5 percent over its operating range. The results of the monitoring shall be recorded in a logbook (electronic or written form) to document the compliance with the above requirement.

Reporting

c. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.3 D.1.b above, postmarked on or before January 30 for the preceding six-month period between July and December and July 30 for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2.1.3 E Fertilizer Warehouse Fugitives: Warehouse No. 3 (ID No. DAP3WH3), ep390

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100
Sulfur Dioxide $PM/PM_{10}/PM_{2.5}$ Nitrogen Oxides Fluorides Lead	**See Section 2.2 C.1.**	15A NCAC 02D .0530(u)

2.1.3 F Other Sources in the Fertilizer Production Area

- **Phosphoric Acid Pilot Plant No. 2, (ID No. PA Pilot No. 2) controlled via a venturi scrubber (ID No. 116-002), ep316**
- **Technical Services Pilot Plant (ID No. Tech Services PP), ep317**
- **Technical Services Dust Collection System – Main Laboratory (ID No. 318), ep318**
- **Warehouse for DAP 2 or DAP 3 (ID No. DAP23WH1) and Warehouse No. 2 for DAP2 (ID No. DAP2WH2), ep390**
- **Fertilizer Plant Fugitives, ep391, ep392**

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100
Sulfur Dioxide $PM/PM_{10}/PM_{2.5}$ Nitrogen Oxides Fluorides Lead	**[Affected Sources: ONLY ID Nos. F391 and F392), ep391 and ep392]** **See Section 2.2 C.1.**	15A NCAC 02D .0530(u)

2.1.4 Superphosphoric Acid Plant Area

2.1.4 A No. 2 Filter Press (ID No. FPR-2) and No. 3 Filter Press (ID No. FPR-3), ep305

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Total Fluorides	**(ID No. FPR-3 only)** No control	15A NCAC 02D .0530
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

1. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD) BACT

For the No. 3 filter press **(ID No. FPR-3, ep305),** BACT has been determined to be uncontrolled total fluorides.

2.1.4 B Superphosphoric Acid Plant No. 1 (ID Nos. 451-418 and 451-409) and No. 2 Press Product Tank (ID No. 453-112) controlled by a venturi type wet scrubber (ID No. 451-407), ep330

Superphosphoric Acid Plant No. 2 (ID Nos. 451-701 and 451-809) and No. 3 Press Product Tank (ID No. 453-409) controlled by a venturi type wet scrubber (ID No. 451-807), ep331

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Sulfur Dioxide	30 pounds per day Superphosphoric Acid Plant No. 1	15A NCAC 02D .0501(c)
	50 pounds per day Superphosphoric Acid Plant No. 2	
Particulate Matter	$E = 4.10 \times P^{0.67}$ (for process rates $\leq$ 30 tons per hour) Where: E = allowable emission rate in pounds per hour P = rock throughput in tons per hour	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Total Fluorides	0.010 pounds per ton of equivalent P_2O_5 feed	15A NCAC 02D .1111 (40 CFR Part 63, Subpart AA)

1. 15A NCAC 02D .0501(c): COMPLIANCE WITH NATIONAL AMBIENT AIR QUALITY STANDARDS

a. Operation of the superphosphoric acid plants **(ID Nos. 451-418 and 451-409; 451-701 and 451-809)** shall be limited as follows:
   i. Superphosphoric acid plant No. 1 **(ID Nos. 451-418 and 451-409)** shall be limited to 30 pounds per calendar day of sulfur dioxide emissions,
   ii. Superphosphoric acid plant No. 2 **(ID Nos. 451-701 and 451-809)** shall be limited to 50 pounds per calendar day of sulfur dioxide emissions.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.4 B.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c).

c. The Permittee shall demonstrate compliance with the emission limits above by testing each superphosphoric acid plant **(ID Nos. 451-418 and 451-409; 451-701 and 451-809)** annually for sulfur dioxide. The normal production rate (hourly) shall be calculated by dividing the total annual production for the plant by the number of hours that the plant was operated during that year. The facility shall establish the normal production rate using the production records of over the last production year. Details of the emissions testing and requirements can be found in General Condition JJ.

If the results of this test are above the limit given above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c).

Reporting [15A NCAC 02Q .0508(f)]

d. The reporting requirements in Section 2.1.4 B.4.r and B.4.s below shall be sufficient to demonstrate compliance with Section 2.1.4 B.1.a, above.

2. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from these sources **(ID Nos. 451-418 and 451-409; 451-701 and 451-809)** shall not exceed an allowable emission rate as calculated by the following equation:

$E = 4.10 \times P^{0.67}$ (for process rates less than or equal to 30 tons per hour)

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.4 B.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is necessary to verify compliance with 15A NCAC 02D .0515.

3. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources **(ID Nos. 451-418 and 451-409; 451-701 and 451-809)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.4 B.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is necessary to verify compliance with 15A NCAC 02D .0521.

4. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart AA, Phosphoric Acid Manufacturing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart AA, "NESHAP from Phosphoric Acid Manufacturing Plants" including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.601]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.601 shall apply.

General Provisions [40 CFR 63.608]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA.

d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for

minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.608(b)]

e. The Permittee shall develop, and submit to the DAQ upon request, a site-specific monitoring plan for each continuous monitoring system (CMS) used to demonstrate compliance with any applicable emission limit or work practice standard. The plan must include the following information:
   i. Location of the CMS sampling probe or other interface.
   ii. Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems.
   iii. Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).
   iv. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1)(ii), (c)(3), (c)(4)(ii), and Table 4 to 40 CFR Part 63, Subpart AA.
   v. Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d)(1) and (2) and Table 5 to 40 CFR Part 63, Subpart AA.
   vi. Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i).
   vii. A schedule for conducting initial and subsequent performance evaluations.
   viii. The program of corrective action required under 40 CFR 63.8(d)(2).

   The Permittee shall maintain the site-specific monitoring plan on site for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the DAQ. If the site-specific monitoring plan is revised, the Permittee shall maintain previous (*i.e.*, superseded) versions of the plan on site to be made available for inspection, upon request, by the DAQ, for a period of 5 years after each revision to the plan. [40 CFR 63.608(c)]

Emission limits [15A NCAC 02Q .0508(f)]

f. SPA plants Nos. 1 and 2 **(ID Nos. 451-418 and 451-409; 451-701 and 451-809)** shall not discharge into the atmosphere gases that contain total fluorides in excess of 0.010 lb/ton of equivalent P_2O_5 feed. The Permittee shall include emissions from the Press Product Tanks **(ID Nos. 453-112 and 453-409**) when determining compliance with the total fluorides limits for each associated SPA Plant **(ID Nos. 451-418 and 451-409; 451-701 and 451-809, respectively)**. [40 CFR 63.602(a)(1) and Table 1 to Subpart AA]

Testing [15A NCAC 02Q .0508(f)]

g. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.4 B.4.f above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

h. The Permittee shall conduct performance tests once per calendar year. The Permittee shall conduct the annual testing in accordance with General Condition JJ and the following paragraphs. The Permittee shall use as reference methods and procedures the test methods in 40 CFR Part 60, Appendix A or other methods and procedures as specified in 40 CFR 63.606. [40 CFR 63.606(b) and (e)]
   i. SPA plants Nos. 1 and 2 **(ID Nos. 451-418 and 451-409; 451-701 and 451-809)** shall be tested annually at representative (normal) conditions for the process. Representative (normal) conditions mean those conditions that:
      (A) Represent the range of combined process and control measure conditions under which the emission source expects to operate (regardless of the frequency of the conditions); and
      (B) Are likely to most challenge the emissions control measures of the emission source with regard to meeting the emission standards in Section 2.1.4 B.4.f above, but without creating an unsafe condition. Operations during startup, shutdown, and malfunction do not constitute representative (normal) operating conditions for purposes of conducting a performance test.

      [40 CFR 63.606(d)(1)]
   ii. The Permittee shall record the process information that is necessary to document the operating conditions during the test and include in such record an explanation to support that such conditions represent representative (normal) conditions. Upon request, the Permittee shall make available to DAQ such records as may be necessary to determine the conditions of performance tests. [40 CFR 63.606(d)(2)]
   iii. During the most recent performance test, if compliance is demonstrated with the emission limit while operating the control device outside the previously established operating limit, the Permittee shall establish a new operating limit

based on that most recent performance test and notify DAQ that the operating limit changed based on data collected during the most recent performance test. [40 CFR 63.607(a)]

(A) When SPA plants Nos. 1 and 2 **(ID Nos. 451-418 and 451-409; 451-701 and 451-809)** are retested and the performance test results are submitted to DAQ, the Permittee shall indicate whether the operating limit is based on the new performance test or the previously established limit.

(B) Upon establishment of a new operating limit, the Permittee shall thereafter operate under the new operating limit. If DAQ determines that the Permittee did not conduct the compliance test in accordance with the applicable requirements or that the operating limit established during the performance test does not correspond to representative (normal) conditions, the Permittee shall conduct a new performance test and establish a new operating limit.

If the results of the performance test are above the limits given in Section 2.1.4 B.4.f above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111. [40 CFR 63.606(b)]

i. For each SPA plants **(ID Nos. 451-418 and 451-409; 451-701 and 451-809)** that has not operated since the previous annual performance test was conducted and more than 1 year has passed since the previous performance test, the Permittee shall conduct a performance test no later than 180 days after the re-start of the SPA plant according to the applicable provisions in 40 CFR 63.7(a)(2). [40 CFR 63.606(c)]

j. If the new parametric operating values re-established during periodic testing are more stringent than the current operating ranges or limits, the Permittee shall submit a request to revise the value(s) in the permit at the same time the test report required pursuant to General Condition JJ is submitted. The permit revision will be processed pursuant to 15A NCAC 02Q .0514. If, during performance testing, the new parametric operating values are less stringent, the Permittee may request to revise the value(s) in the permit pursuant to 15A NCAC 02Q .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f), 40 CFR 63.605, 40 CFR 63.607]

k. The Permittee shall install, calibrate, maintain, and operate a CMS according to the site-specific monitoring plan specified in Section 2.1.4 B.4.e above. The Permittee shall install a CMS with an accuracy of $\pm$5 percent over its operating range and must determine and permanently record the mass flow of phosphorus-bearing feed material to SPA plants Nos. 1 and 2 **(ID Nos. 451-418 and 451-409; 451-701 and 451-809)**. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the feed material mass flow is not monitored as required. [40 CFR 63.605(a)(1)(i)]

l. In accordance with the alternative monitoring plan approved by the DAQ pursuant with 40 CFR 63.8(f), the Permittee shall install and operate a Continuous Parameter Monitoring System (CPMS) on each venturi type wet scrubber **(ID Nos. 451-407 and 451-807)** that meets the following:

i. Continuously measures the influent liquid flow to determine the minimum influent liquid-to-gas ratio (L/G ratio). The L/G ratio shall be calculated using the continuous liquid flow rates and the Gmax determined from the designer's specifications. The L/G ratio shall be required every 15-minute and these readings shall be used to determine a daily average of the L/G ratio. [40 CFR 605(d)(2), Table 4 of 40 CFR Part 63, Subpart AA, 40 CFR 63.8(f)]

ii. Complies with the calibration and quality control requirements that are applicable to the flow rate as specified in Table 5 of 40 CFR Part 63, Subpart AA. [40 CFR 605(d)(3)]

iii. The Permittee has submitted the results of previous tests to demonstrate the minimum influent liquid flow for the venturi type wet scrubbers are as follows:

(A) Venturi type wet scrubber on SPA Plant 1 **(ID No. 451-407)** is 80 gpm and

(B) Venturi type wet scrubber on SPA Plant 2 **(ID No. 451-807)** is 97 gpm.

If the daily averages of the minimum influent liquid flow are below the allowable limits an exceedance will have occurred.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the CPMS on the venturi scrubbers are not installed and operated as required above.

m. The Permittee shall demonstrate compliance with the emissions standards in Section 2.1.4 B.4.f above using the procedures in 40 CFR 63.606(f) through (i). In computing averages to determine compliance the Permittee shall exclude the monitoring data specified below. [40 CFR 63.606 and 63.607(d)]

i. Periods of non-operation of the SPA plants;

ii. Periods of no flow to the venturi type wet scrubbers; and any monitoring data recorded during CPMS breakdowns, out-of-control periods, repairs, maintenance periods, instrument adjustments or checks to maintain precision and accuracy, calibration checks, and zero (low-level), mid-level (if applicable), and high-level adjustments in computing the daily average of minimum influent liquid flow to the venturi type wet scrubbers

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the average monitoring parameters are not calculated as required above.

n. The Permittee shall conduct a performance evaluation, as specified in 40 CFR 63.8(e), in accordance with the site-specific monitoring plan required in Section 2.1.4 B.4.e above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the performance evaluation is not conducted as required. [40 CFR 63.606(m)]

o. The Permittee shall record in a logbook (written or electronic format) the following:
   i. A daily record of phosphate rock feed by determining the total mass rate in short ton/hour of phosphorus bearing feed using a monitoring system for measuring mass flow rate. [40 CFR 63.605(a)(2)]
   ii. Influent liquid flow to each venturi scrubber. [40 CFR 63.605(d)(2)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these records are not kept or if any exceedances of the limits in Section 2.1.4 B.4.l above are not determined.

p. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years. [40 CFR 63.607(b)(1) and (c)] The Permittee shall be deemed in noncompliance if these requirements are not met.

Start-up, Shutdown, and Malfunction Procedures [40 CFR 63.602(f)]

q. During periods of startup and shutdown, as defined in 40 CFR 63.601, the Permittee shall comply with the work practice specified in this paragraph in lieu of the emission limits specified in Section 2.1.4 B.4.f above. During periods of startup and shutdown, the Permittee shall operate the venturi type wet scrubbers used on the SPA plants, monitor the influent liquid flow in accordance with Section 2.1.4 B.4.l above, and comply with the operating limits specified in Section 2.1.4 B.4.l.iii above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Reporting [15A NCAC 02Q .0508(f)]

r. Summary report. If the total duration of control system exceedances for the reporting period is less than 1 percent of the total operating time for the reporting period or if CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, the Permittee shall submit a summary report containing the information specified in 40 CFR 63.10(e)(3)(iv) rather than the full excess emissions report. The summary report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. [40 CFR 63.607(b)(5), 40 CFR 63.10(e)(3)(vii)]

s. Excess emissions report. If the total duration of control system operating parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period or if the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Permittee shall submit both a Summary Report and an excess emissions report for any exceedance of an operating parameter limit. The report shall contain the information specified in 40 CFR 63.10 and 40 CFR 63.607(b)(4). The report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. If exceedances are reported, the Permittee shall report quarterly until a request to reduce reporting frequency is approved as described in 40 CFR 63.10. [40 CFR 63.607(b)(3) and (5), 40 CFR 63.10(e)(3)(viii)]

t. EPA Electronic Reporting Tool. Within 60 days after the date of completing each performance test (defined in 40 CFR 63.2) as required by 40 CFR Part 63, Subpart AA, the Permittee shall submit the results of the performance tests, including any associated fuel analyses, to the DAQ pursuant to 40 CFR 63.10(d)(2) and to the EPA via the procedures in 40 CFR 63.607(e)(1) or (2).

u. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the reporting requirements in Section 2.1.4 B.2.r through B.2.t are not met.

2.1.4 C Superphosphoric acid plant No. 3 (ID Nos. 451-316 and 451-308) and superphosphoric acid plant No. 4 (ID Nos. 451-916 and 451-940) controlled by a wet venturi type scrubber (ID No. 451-315), ep332

The following table provides a summary of limits and standards for the emission source(s) described above.

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10 \times P^{0.67}$ (for process rates ≤ 30 tons per hour) Where: E = allowable emission rate in pounds per hour P = rock throughput in tons per hour	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Sulfur Dioxide	400 pounds per day (combined Plant Nos. 3 and 4)	15A NCAC 02D .0530
Total Fluorides	0.010 pounds per ton of equivalent P_2O_5 feed	15A NCAC 02D .1111 (40 CFR Part 63, Subpart AA)
Sulfur Dioxide Particulate Matter Nitrogen Oxides	**See Section 2.2 B.1**	15A NCAC 02D .0530(u)

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from these sources **(ID Nos. 451-316 and 451-308: 451-916 and 451-940)** shall not exceed an allowable emission rate as calculated by the following equation:

$E = 4.10 \times P^{0.67}$ (for process rates less than or equal to 30 tons per hour)

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.4 C.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is necessary to verify compliance with 15A NCAC 02D .0515.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources **(ID Nos. 451-316 and 451-308: 451-916 and 451-940)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.4 C.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is necessary to verify compliance with 15A NCAC 02D .0521.

3. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD) BACT

a. Wet scrubbing and an emission rate of 400 pounds per day of sulfur dioxide has been determined to be BACT for SPA Plants Nos. 3 and 4.

Emission Source	Pollutant	Control Method	BACT Emission Limit
Superphosphoric Acid Plant Nos. 3 and 4 (combined)	Sulfur dioxide	Wet Scrubbing	400 pounds per day

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.4 C.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

c. The Permittee shall demonstrate compliance with the sulfur dioxide emission limits above by testing the SPA Nos. 3 and 4 plants annually for sulfur dioxide. The normal production rate (hourly) shall be calculated by dividing the total annual production for the plant by the number of hours that the plant was operated during that year. The facility shall establish the normal production rate using the production records of over the last production year. Details of the emissions testing and requirements can be found in General Condition JJ. If the results of this test are above the limits given above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

d. The Permittee shall demonstrate compliance with the sulfur dioxide emission limits given above by monitoring and recording the mass flow rate of phosphorus bearing material to the process and flow rate of scrubbing liquid to each scrubber as described in Section 2.1.4 C.4.k through C.4.p below. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of monitoring, testing and recordkeeping activities given in Section 2.1.4 C.1.d above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart AA, Phosphoric Acid Manufacturing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart AA, "NESHAP from Phosphoric Acid Manufacturing Plants" including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.601]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.601 shall apply.

General Provisions [40 CFR 63.608]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA.

d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.608(b)]

e. The Permittee shall develop, and submit to the DAQ upon request, a site-specific monitoring plan for each continuous monitoring system (CMS) used to demonstrate compliance with any applicable emission limit or work practice standard. The plan must include the following information:

i. Location of the CMS sampling probe or other interface.
ii. Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems.
iii. Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).
iv. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1)(ii), (c)(3), (c)(4)(ii), and Table 4 to 40 CFR Part 63, Subpart AA.
v. Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d)(1) and (2) and Table 5 to 40 CFR Part 63, Subpart AA.
vi. Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i).
vii. A schedule for conducting initial and subsequent performance evaluations.
viii. The program of corrective action required under 40 CFR 63.8(d)(2).

The Permittee shall maintain the site-specific monitoring plan on site for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the DAQ. If the site-specific monitoring plan is revised, the Permittee shall maintain previous (*i.e.*, superseded) versions of the plan on site to be made available for inspection, upon request, by the DAQ, for a period of 5 years after each revision to the plan. [40 CFR 63.608(c)]

Emission limits [15A NCAC 02Q .0508(f)]

f. SPA plants Nos. 3 and 4 **(ID Nos. 451-316 and 451-308; 451-916 and 451-940)** shall not discharge into the atmosphere gases that contain total fluorides in excess of 0.010 lb/ton of equivalent P_2O_5 feed. [40 CFR 63.602(a)(1) and Table 1 to Subpart AA]

Testing [15A NCAC 02Q .0508(f)]

g. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.4 C.4.f above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.
h. The Permittee shall conduct performance tests once per calendar year. The Permittee shall conduct the annual testing in accordance with General Condition JJ and the following paragraphs. The Permittee shall use as reference methods and procedures the test methods in 40 CFR Part 60, Appendix A or other methods and procedures as specified in 40 CFR 63.606. [40 CFR 63.606(b) and (e)]
    i. SPA plants Nos. 3 and 4 **(ID Nos. 451-316 and 451-308; 451-916 and 451-940)** shall be tested annually at representative (normal) conditions for the process. Representative (normal) conditions mean those conditions that:
        (A) Represent the range of combined process and control measure conditions under which the emission source expects to operate (regardless of the frequency of the conditions); and
        (B) Are likely to most challenge the emissions control measures of the emission source with regard to meeting the emission standards in Section 2.1.4 C.4.f above, but without creating an unsafe condition. Operations during startup, shutdown, and malfunction do not constitute representative (normal) operating conditions for purposes of conducting a performance test.

        [40 CFR 63.606(d)(1)]
    ii. The Permittee shall record the process information that is necessary to document the operating conditions during the test and include in such record an explanation to support that such conditions represent representative (normal) conditions. Upon request, the Permittee shall make available to DAQ such records as may be necessary to determine the conditions of performance tests. [40 CFR 63.606(d)(2)]
    iii. During the most recent performance test, if compliance is demonstrated with the emission limit while operating the control device outside the previously established operating limit, the Permittee shall establish a new operating limit based on that most recent performance test and notify DAQ that the operating limit changed based on data collected during the most recent performance test. [40 CFR 63.607(a)]
        (A) When SPA plants Nos. 3 and 4 **(ID Nos. 451-316 and 451-308; 451-916 and 451-940)** are retested and the performance test results are submitted to DAQ, the Permittee shall indicate whether the operating limit is based on the new performance test or the previously established limit.
        (B) Upon establishment of a new operating limit, the Permittee shall thereafter operate under the new operating limit. If DAQ determines that the Permittee did not conduct the compliance test in accordance with the applicable requirements or that the operating limit established during the performance test does not correspond to representative (normal) conditions, the Permittee shall conduct a new performance test and establish a new operating limit.

    If the results of the performance test are above the limits given in Section 2.1.4 C.4.f above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111. [40 CFR 63.606(b)]

i. For each SPA plant **(ID Nos. 451-316 and 451-308; 451-916 and 451-940)** that has not operated since the previous annual performance test was conducted and more than 1 year has passed since the previous performance test, the Permittee shall conduct a performance test no later than 180 days after the re-start of the SPA plant according to the applicable provisions in 40 CFR 63.7(a)(2). [40 CFR 63.606(c)]

j. If the new parametric operating values re-established during periodic testing are more stringent than the current operating ranges or limits, the Permittee shall submit a request to revise the value(s) in the permit at the same time the test report required pursuant to General Condition JJ is submitted. The permit revision will be processed pursuant to 15A NCAC 02Q .0514. If, during performance testing, the new parametric operating values are less stringent, the Permittee may request to revise the value(s) in the permit pursuant to 15A NCAC 02Q .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f), 40 CFR 63.605, 40 CFR 63.607]

k. The Permittee shall install, calibrate, maintain, and operate a CMS according to the site-specific monitoring plan specified in Section 2.1.4 C.2.e above. The Permittee shall install a CMS with an accuracy of $\pm$5 percent over its operating range and must determine and permanently record the mass flow of phosphorus-bearing feed material to SPA plants Nos. 3 and 4 **(ID Nos. 451-316 and 451-308; 451-916 and 451-940).** The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the feed material mass flow is not monitored as required. [40 CFR 63.605(a)(1)(i)]

l. In accordance with the alternative monitoring plan approved by the DAQ pursuant with 40 CFR 63.8(f), the Permittee shall install and operate a Continuous Parameter Monitoring System (CPMS) on the venturi type wet scrubber **(ID No. 451-315)** that meets the following:
   i. Continuously measures the influent liquid flow to determine the minimum influent liquid-to-gas ratio (L/G ratio). The L/G ratio shall be calculated using the continuous liquid flow rates and the Gmax determined from the designer's specifications. The L/G ratio shall be required every 15-minute and these readings shall be used to determine a daily average of the L/G ratio. [40 CFR 605(d)(2), Table 4 of 40 CFR Part 63, Subpart AA, 40 CFR 63.8(f)]
   ii. Complies with the calibration and quality control requirements that are applicable to the flow rate as specified in Table 5 of 40 CFR Part 63, Subpart AA. [40 CFR 605(d)(3)]
   iii. The Permittee has submitted the results of previous tests to demonstrate the minimum influent liquid flow for the venturi type wet scrubber on SPA Plants 3 and 4 **(ID No. 451-315)** is 115 gpm. If the daily average of the minimum influent liquid flow is below the allowable limit an exceedance will have occurred.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the CPMS on the venturi scrubber is not installed and operated as required above.

m. The Permittee shall demonstrate compliance with the emissions standards in Section 2.1.4 C.4.f above using the procedures in 40 CFR 63.606(f) through (i). In computing averages to determine compliance the Permittee shall exclude the monitoring data specified below. [40 CFR 63.606 and 63.607(d)]
   i. Periods of non-operation of the SPA plants;
   ii. Periods of no flow to the venturi type wet scrubbers; and any monitoring data recorded during CPMS breakdowns, out-of-control periods, repairs, maintenance periods, instrument adjustments or checks to maintain precision and accuracy, calibration checks, and zero (low-level), mid-level (if applicable), and high-level adjustments in computing the daily average of minimum influent liquid flow to the venturi type wet scrubbers

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the average monitoring parameters are not calculated as required above.

n. The Permittee shall conduct a performance evaluation, as specified in 40 CFR 63.8(e), in accordance with the site-specific monitoring plan required in Section 2.1.4 C.4.e above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the performance evaluation is not conducted as required. [40 CFR 63.606(m)]

o. The Permittee shall record in a logbook (written or electronic format) the following:
   i. A daily record of phosphate rock feed by determining the total mass rate in short ton/hour of phosphorus bearing feed using a monitoring system for measuring mass flow rate. [40 CFR 63.605(a)(2)]
   ii. Influent liquid flow to each venturi scrubber. [40 CFR 63.605(d)(2)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these records are not kept or if any exceedances of the limits in Section 2.1.4 C.4.l above are not determined.

p. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years. [40 CFR 63.607(b)(1) and (c)] The Permittee shall be deemed in noncompliance if these requirements are not met.

Start-up, Shutdown, and Malfunction Procedures [40 CFR 63.602(f)]

q. During periods of startup and shutdown, as defined in 40 CFR 63.601, the Permittee shall comply with the work practice specified in this paragraph in lieu of the emission limits specified in Section 2.1.4 C.4.f above. During periods of startup and shutdown, the Permittee shall operate the venturi type wet scrubbers used on the SPA plants, monitor the influent liquid flow in accordance with Section 2.1.4 C.4.l above, and comply with the operating limits specified in Section 2.1.4 C.4.l.iii above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Reporting [15A NCAC 02Q .0508(f)]

r. Summary report. If the total duration of control system exceedances for the reporting period is less than 1 percent of the total operating time for the reporting period or if CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, the Permittee shall submit a summary report containing the information specified in 40 CFR 63.10(e)(3)(iv) rather than the full excess emissions report. The summary report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. [40 CFR 63.607(b)(5), 40 CFR 63.10(e)(3)(vii)]

s. Excess emissions report. If the total duration of control system operating parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period or if the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Permittee shall submit both a Summary Report and an excess emissions report for any exceedance of an operating parameter limit. The report shall contain the information specified in 40 CFR 63.10 and 40 CFR 63.607(b)(4). The report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. If exceedances are reported, the Permittee shall report quarterly until a request to reduce reporting frequency is approved as described in 40 CFR 63.10. [40 CFR 63.607(b)(3) and (5), 40 CFR 63.10(e)(3)(viii)]

t. EPA Electronic Reporting Tool. Within 60 days after the date of completing each performance test (defined in 40 CFR 63.2) as required by 40 CFR Part 63, Subpart AA, the Permittee shall submit the results of the performance tests, including any associated fuel analyses, to the DAQ pursuant to 40 CFR 63.10(d)(2) and to the EPA via the procedures in 40 CFR 63.607(e)(1) or (2).

u. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the reporting requirements in Section 2.1.4 C.4.r through C.4.t are not met.

2.1.4 D Additive Storage Silo (ID No. 453-468) controlled by a bagfilter (ID No. 453-470), ep341

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10 \times P^{0.67}$ (for process rates $\leq$ 30 tons per hour) Where: E = allowable emission rate in pounds per hour P = rock throughput in tons per hour	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A1 and Attachment 1**	15A NCAC 02D .1100

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation:

$E = 4.10 \times P^{0.67}$ (for process rates less than or equal to 30 tons per hour)

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.4 D.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from the silo shall be controlled by the bagfilter. To ensure compliance, the Permittee shall perform inspections and perform maintenance pursuant to standard operating procedures. As a minimum, the inspection and maintenance requirement shall include the following:
   i. A monthly visual inspection of the system ductwork and material collection unit for leaks; and
   ii. An annual (for each 12-month period following the initial inspection) internal inspection of the bagfilter's structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork and bagfilters are not inspected and maintained.

d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection;
   iii. The results of any maintenance performed on the bagfilters; and
   iv. Any variance from manufacturer's recommendations, if any, and corrections made.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit the results of any maintenance performed on the bagfilters within 30 days of a written request by the DAQ.

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.4 D.1.c and D.1.d above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from the silos shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.4 D.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping [15 NCAC 02Q .0508(f)]

c. For emission source (**ID No. 453-468**), compliance with the requirements of Section 2.1.4 D.1.c. and D.1.d above will be sufficient to demonstrate compliance with 15A NCAC 02D .0521. If the monitoring and recordkeeping is not conducted as specified in Section 2.1.4 D.1.c and D.1.d above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Reporting [15A NCAC 02Q .0508(f)]

d. For emission source (**ID No. 453-468**), compliance with the requirements of Section 2.1.4 D.1.e and D.1.f above will be sufficient to demonstrate compliance with 15A NCAC 02D .0521.

2.1.4 E Superphosphoric acid plant No. 5 (ID Nos. 451-1100 and 451-1200) controlled by a venturi type wet scrubber (ID No. 451-1300), ep333

The following table provides a summary of limits and standards for the emission source(s) described above.

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10 \times P^{0.67}$ (for process rates $\leq$ 30 tons per hour) Where: E = allowable emission rate in pounds per hour P = rock throughput in tons per hour	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Total Fluorides	0.00870 pounds per ton of equivalent P_2O_5 feed	15A NCAC 02D .1111 (40 CFR Part 63, Subpart AA)
Sulfur Dioxide Particulate Matter Nitrogen Oxides	**See Section 2.2 B.1**	15A NCAC 02D .0530(u)
N/A	Submit Title V permit application within one year from the date of beginning operation of applicable sources **See Section 2.2 B.2**	15A NCAC 02Q .0504

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation:

$E = 4.10 \times P^{0.67}$ (for process rates less than or equal to 30 tons per hour)

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.4 E.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is necessary to verify compliance with 15A NCAC 02D .0515.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source **(ID Nos. 451-1100 and 451-1200)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.4 E.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is necessary to verify compliance with 15A NCAC 02D .0521.

3. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart AA, Phosphoric Acid Manufacturing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart AA, "NESHAP from Phosphoric Acid Manufacturing Plants" including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.601]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.601 shall apply.

General Provisions [40 CFR 63.608]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA.

d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.608(b)]

e. The Permittee shall develop, and submit to the DAQ upon request, a site-specific monitoring plan for each continuous monitoring system (CMS) used to demonstrate compliance with any applicable emission limit or work practice standard. The plan must include the following information:
   i. Location of the CMS sampling probe or other interface.
   ii. Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems.
   iii. Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).
   iv. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1)(ii), (c)(3), (c)(4)(ii), and Table 4 to 40 CFR Part 63, Subpart AA.
   v. Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d)(1) and (2) and Table 5 to 40 CFR Part 63, Subpart AA.
   vi. Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i).
   vii. A schedule for conducting initial and subsequent performance evaluations.
   viii. The program of corrective action required under 40 CFR 63.8(d)(2).

   The Permittee shall maintain the site-specific monitoring plan on site for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the DAQ. If the site-specific monitoring plan is revised, the Permittee shall maintain previous (*i.e.*, superseded) versions of the plan on site to be made available for inspection, upon request, by the DAQ, for a period of 5 years after each revision to the plan. [40 CFR 63.608(c)]

Compliance Date [40 CFR 63.602(a)(4)]

f. The Permittee shall comply with the emission limits specified in Section 2.1.4 E.3.g below immediately upon startup of SPA plant No. 5 **(ID Nos. 451-1100 and 451-1200)**. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if compliance is not achieved by this date.

Emission limits [15A NCAC 02Q .0508(f)]

g. SPA plant No. 5 **(ID Nos. 451-1100 and 451-1200)** shall not discharge into the atmosphere gases that contain total fluorides in excess of.00870 lb/ton of equivalent P_2O_5 feed. [40 CFR 63.602(a)(4) and Table 2 of Subpart AA]

Testing [15A NCAC 02Q .0508(f)]

h. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.4 E.3.g above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

i. The Permittee shall conduct an initial performance test to demonstrate compliance with the emission limit in Section 2.1.4 E.3.g above within 180 days of initial startup of SPA plant No. 5 **(ID Nos. 451-1100 and 451-1200)**. [40 CFR 63.606(a)]

j. Following the initial performance test, the Permittee shall conduct a performance test to demonstrate compliance with the emission limit in Section 2.1.4 E.3.g above once per calendar year. [40 CFR 63.606(b)]

k. Performance testing shall be conduct in accordance the following:
   i. Performance tests shall be conducted at representative (normal) conditions for the process. Representative (normal) conditions means those conditions that:
      (A) Represent the range of combined process and control measure conditions under which the facility expects to operate (regardless of the frequency of the conditions); and
      (B) Are likely to most challenge the emissions control measures of the facility with regard to meeting the applicable emission standards, but without creating an unsafe condition. Operations during startup, shutdown, and malfunction do not constitute representative (normal) operating conditions for purposes of conducting a performance test.

      [40 CFR 63.606(d)(1)]
   ii. The Permittee shall record process information necessary to document the operating conditions during the test and include in such records an explanation to support that such conditions represent representative (normal) conditions. The Permittee shall make available to an authorized representative upon request such records as may be necessary to determine the conditions of performance tests. [40 CFR 63.606(d)(2)]
   iii. The Permittee shall use reference methods and procedures the test methods in 40 CFR part 60, appendix A, or other methods and procedures as specified in this section, except as provided in 40 CFR 63.7(f). [40 CFR 63.606(e)]
   iv. The Permittee shall determine compliance with the emission limit in Section 2.1.4 E.3.g above as specified in 40 CFR 63.606(f)(1) through (3). [40 CFR 63.606(f)]
   v. The Permittee shall monitor the liquid flowrate to the venturi type wet scrubber **(ID No. 451-1300)** and establish the applicable limit during testing. In accordance with the alternative monitoring plan approved by the Division, the Permittee shall determine the value(s) of the liquid flow rate as the arithmetic average of the liquid flow rate measurements recorded during the three test runs conducted during the most recent performance test. The Permittee shall determine a minimum L/G ratio from the liquid flow rate value established during the most recent performance test and maximum volumetric flow (G_{max}) from the designer's specifications. [40 CFR 63.605(d)(1), 40 CFR 60.8(f)]

l. The Permittee shall conduct a performance evaluation as specified in 40 CFR 63.8(e) on continuous monitoring system (CMS) used to measure P_2O_5 feed, in accordance with the site-specific monitoring plan in 40 CFR 63.608(c). [40 CFR 63.606(m)]

m. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if performance testing is not conducting in accordance with Section 2.1.4 E.3.h through E.3.l above.

Notifications

n. The Permittee shall submit a notification of the actual date of startup of the source, delivered or postmarked within 15 calendar days after that date. [40 CFR 63.607, 40 CFR 63.9]

o. The Permittee shall submit the results of the initial and subsequent performance tests as part of the notification of compliance status required in 40 CFR 63.9(h) The Permittee shall verify that the operating limits for each process have not changed or provide documentation of revised operating limits established according to 40 CFR 63.605, as applicable. The notification shall contain the requirements under 40 CFR 63.9(h), as applicable. The notification must be signed by a responsible official and submitted by the close of business on the 60th day following the completion of the initial performance test and each subsequent performance test. [40 CFR 63.607(b)(2), 40 CFR 63.9(h)]

p. During the most recent performance test, if the Permittee demonstrates compliance with the emission limit while operating the control device outside the previously established operating limit, the Permittee shall establish a new operating limit based on that most recent performance test and notify the DAQ that the operating limit changed based on data collected during the most recent performance test. When a source is retested and the performance test results are submitted to the DAQ pursuant to Section 2.1.4 E.3.j above, the Permittee shall indicate whether the operating limit is based on the new performance test or the previously established limit. Upon establishment of a new operating limit, the Permittee shall thereafter operate under the new operating limit. If the DAQ determines that the Permittee did not conduct the compliance test in accordance with the applicable requirements or that the operating limit established during the performance test does not correspond to representative (normal) conditions, the Permittee shall conduct a new performance test and establish a new operating limit. [40 CFR 63.607(a)]

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f), 40 CFR 63.605, 40 CFR 63.607]

q. The Permittee shall install, calibrate, maintain, and operate CMS according to the site-specific monitoring plan specified in 40 CFR 63.608(c). The CMS must have an accuracy of ±5 percent over its operating range and must determine and permanently record the mass flow of phosphorus-bearing material fed to the process. [40 CFR 63.605(a)(1)]

r. The Permittee shall maintain a daily record of equivalent P_2O_5 feed. The Permittee shall maintain a daily record of equivalent P_2O_5 feed by first determining the total mass rate in metric ton/hour of phosphorus bearing feed using a monitoring system for measuring mass flow rate which meets the requirements of Section 2.1.4 E.3.q above and then by proceeding according to 40 CFR 63.606(f)(3).

s. In accordance with the alternative monitoring plan approved by the Division, the Permittee shall install and operate a CPMS on the venturi type wet scrubber **(ID No. 451-1300)** that meets the following:

   i. Continuously measures the liquid flow rate to determine the minimum influent liquid-to-gas ratio (L/G ratio). The L/G ratio shall be calculated using the continuous liquid flow rates and the Gmax determined from the designer's specifications. The L/G ratio shall be required every 15-minute and these readings shall be used to determine a daily average of the L/G ratio. [40 CFR 605(d)(2), Table 4 of 40 CFR 63 Subpart AA 40 CFR 63.8(f)]

   ii. Monitors liquid flowrate to an accuracy of ±5 percent over the normal range of flow measured or 1.9 liters per minute (0.5 gallons per minute), whichever is greater. [40 CFR 605(d)(3), Table 5 of 40 CFR 63 Subpart AA]

t. The Permittee shall exclude periods of non-operation of SPA plant No. 5 **(ID Nos. 451-1100 and 451-1200)**; periods of no flow to the venturi type wet scrubber **(ID No. 451-1300)**; and any monitoring data recorded during CPMS breakdowns, out-of-control periods, repairs, maintenance periods, instrument adjustments or checks to maintain precision and accuracy, calibration checks, and zero (low-level), mid-level (if applicable), and high-level adjustments in computing the daily average of liquid flow rate to the venturi type wet scrubber **(ID No. 451-1300)**. [40 CFR 63.607(d)]

u. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years. [40 CFR 63.607(b)(1) and (c)]

v. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the monitoring and recordkeeping activities Section 2.1.4 E.3.q through E.3.u above are not met.

Start-up, Shutdown, and Malfunction Procedures [40 CFR 63.602(f)]

w. During periods of startup and shutdown, as defined in 40 CFR 63.601, the Permittee shall comply with the work practice specified in this paragraph in lieu of the emission limits specified in Section 2.1.4 E.3.g above. During periods of startup and shutdown, the Permittee shall operate the venturi type wet scrubbers used on the SPA plant, monitor the influent liquid flow, and comply with the operating limits developed in accordance with Section 2.1.4 E.3.k.v above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Reporting [15A NCAC 02Q .0508(f)]

x. Summary report. If the total duration of control system exceedances for the reporting period is less than 1 percent of the total operating time for the reporting period or if CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, the Permittee shall submit a summary report containing the information specified in 40 CFR 63.10(e)(3)(iv) rather than the full excess emissions report. The summary report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. [40 CFR 63.607(b)(5), 40 CFR 63.10(e)(3)(vii)]

y. Excess emissions report. If the total duration of control system operating parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period or if the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Permittee shall submit both a Summary Report and an excess emissions report for any exceedance of an operating parameter limit. The report shall contain the information specified in 40 CFR 63.10 and 40 CFR 63.607(b)(4). The report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. If exceedances are reported, the Permittee shall report quarterly until a request to reduce reporting frequency is approved as described in 40 CFR 63.10. [40 CFR 63.607(b)(3) and (5), 40 CFR 63.10(e)(3)(viii)]

z. EPA Electronic Reporting Tool. Within 60 days after the date of completing each performance test (defined in 40 CFR 63.2) as required by 40 CFR Part 63, Subpart AA, the Permittee shall submit the results of the performance tests,

including any associated fuel analyses, to the DAQ pursuant to 40 CFR 63.10(d)(2) and to the EPA via the procedures in 40 CFR 63.607(e)(1) or (2).

aa. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the reporting requirements in Section 2.1.4 E.3.x through E.3.z above are not met.

2.1.4 F No. 1 filter press repulp tank (ID No. 453-1), ep335
No. 2 and No. 3 filter presses repulp tank (ID No. 453-406), ep336

The following table provides a summary of limits and standards for the emission source(s) described above.

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

2.1.5 Phosphoric Acid Production Area

2.1.5 A Phosphoric Acid Train No. 1

- **Reactor train No. 1 (ID No. 421-201), tilting pan (Bird) filter No. 1 (ID No. 421-000), tilting pan (bird) filter No. 1 primary vacuum pump installed on primary vacuum separator (ID No. 421-325), secondary vacuum pump installed on secondary vacuum separator (ID No. 421-327), two barometric condenser vacuum pumps (ID Nos. 421-223 and 421-232), barometric condensers hotwell (ID No. 421-218), tilting pan (Bird) filter No. 1 seal tanks (ID No. 421-330), and trench hood (ID No. 421-225A) controlled by a spray cross-flow packed bed-type scrubber (ID No. 451-225), ep401**
- **Belt filter No. 1 filtrate separator (ID No. 441-000) and spray tower separator (ID No. 441-021) routed through belt filter No. 1 vacuum pump (ID No. 441-015), ep402**
- **Belt filter No. 1 seal tanks (ID No. 441-031) and belt filter No. 1 feed hood (ID No. 441-034) controlled by a cyclonic scrubber (ID No. 442-061), ep403**

Phosphoric Acid Train No. 2

- **Reactor train No. 2 (ID No. 422-201), tilting pan (Bird) filter No. 2 (ID No. 422-000), tilting pan (Bird) filter No. 2 Primary vacuum pump installed on primary vacuum separator (ID No. 422-325), secondary vacuum pump installed on secondary vacuum separator (ID No. 422-327), two barometric condenser vacuum pumps (ID Nos. 422 and 422-232), barometric condensers hotwell (ID No. 422-218), tilting pan (Bird) filter No. 2 seal tanks (ID No. 422-330), and trench hood (ID No. 422-225A) controlled with a spray cross-flow packed bed-type scrubber (ID No. 422-225), ep404**
- **Belt filter No. 2 feed hood (ID No. 442-034) controlled by a cyclonic scrubber (ID No. 442-061), ep403**
- **Belt Filter No. 2 filtrate separator (ID No. 442-000) and spray tower separator (ID No. 442-021) routed through belt filter No. 2 vacuum pump (ID Nos. 442-015), ep405**

Phosphoric Acid Train No. 3

- **Reactor train No. 3 (ID No. 432-201), tilting pan (Bird) filter No. 3 (ID No. 423-000), tilting pan (Bird) filter No. 3 primary vacuum pump installed on primary vacuum separator (ID No. 423-325), secondary vacuum pump installed on secondary vacuum separator (ID No. 432-327), two barometric condenser vacuum pumps (ID Nos. 423-223 and 423-232), barometric condensers hotwell (ID No. 432-218), and tilting pan (Bird) filter No. 3 seal tanks (ID No. 423-330) controlled by a spray cross-flow packed bed-type scrubber (ID No. 423-225), ep406**
- **Belt filter No. 3 filtrate separator (ID No. 443-000) and spray tower separator (ID No. 443-021) routed through the belt filter No. 3 vacuum pump (ID No. 443-015), ep407**
- **Belt filter No. 3 feed hood (ID No. 443-034) controlled by a cyclonic scrubber (ID No. 443-061), ep408**

Phosphoric Acid Train No. 4

- **Belt filter No. 4 seal tanks (ID No. 444-031) and belt filter No. 4 feed hood (ID No. 444-034) controlled by a cyclonic scrubber (ID No. 443-061), ep408**
- **Reactor train No. 4 (ID No. 424-201), tilting pan (Bird) filter No. 4 (ID No. 424-000), tilting pan (Bird) filter No. 4 primary vacuum pump installed on primary vacuum separator (ID No. 424-325), secondary vacuum pump installed on secondary vacuum**

separator (ID No. 424-327), two barometric condenser vacuum pumps (ID Nos. 424-223 and 424-232), barometric condensers hotwell (ID No. 424-218), and tilting pan (Bird) filter No. 4 seal tanks (ID No. 424-330) controlled by a spray cross-flow packed bed-type scrubber (ID No. 424-225), ep409

- **Belt filter No. 4 filtrate separator (ID No. 444-000) and spray tower separator (ID No. 444-021) routed through the belt filter No. 4 vacuum pump (ID No. 444-015), ep410**

Phosphoric Acid Plant Fugitives (ID No. PAPF), ep491

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Sulfur Dioxide	486 pounds per day (Train No. 1 - measured at cross flow scrubber stacks) 486 pounds per day (Train No. 2 - measured at cross flow scrubber stacks) 961 pounds per day (Train No. 3 - measured at cross flow scrubber stacks) 961 pounds per day (Train No. 4 - measured at cross flow scrubber stacks)	15A NCAC 02D .0501(c)
	960 pounds per day (Train No. 3 - measured at cross flow scrubber stacks) 960 pounds per day (Train No. 4 - measured at cross flow scrubber stacks)	15A NCAC 02D .0530
	Compliance Assurance Monitoring (CAM) Plan	15A NCAC 02D .0614
Total Reduced Sulfur	2207.61 tons per rolling 12-month period (Trains 1, 2, 3 and 4)	15A NCAC 02Q .0317 (Avoidance of 15A NCAC 02D .0530)
	1728.3 tons per rolling 12-month period (Trains 1 and 2) (also Train 4 when using calcined rock)	
Hydrogen Sulfide	510 pounds per day (Train 4) 435 pounds per day (Train 3)	15A NCAC 02D .0530
	Compliance Assurance Monitoring (CAM) Plan	15A NCAC 02D .0614
Total Fluorides	10.0 gram/metric ton of equivalent P_2O_5 feed (0.020 lb/ton) (Trains 1, 2, 3, and 4)	15A NCAC 02D .0530
	0.020 lb/ton of equivalent P_2O_5 feed	15A NCAC 02D .1111 40 CFR Part 63, Subpart AA
Toxic Air Pollutants	**State-enforceable only** **Section 2.1.5 A.5 and A.6**	15A NCAC 02Q .0317 (Avoidance of 15A NCAC 02D .1100)

1. 15A NCAC 02D .0501(c): COMPLIANCE WITH NATIONAL AMBIENT AIR QUALITY STANDARDS

a. Sulfuric dioxide emissions from the Phosphoric Acid Trains shall not exceed the following limits:
   i. Phosphoric Acid Train No. 1 (ep401) shall be limited to 486 pounds SO_2 per calendar day;
   ii. Phosphoric Acid Train No. 2 (ep404) shall be limited to 486 pounds SO_2 per calendar day;
   iii. Phosphoric Acid Train No. 3 (ep406) shall be limited to 961 pounds SO_2 per calendar day; and
   iv. Phosphoric Acid Train No. 4 (ep409) shall be limited to 961 pounds SO_2 per calendar day.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.5 A.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501.

c. The Permittee shall demonstrate compliance with the emission limits above by testing one phosphoric acid train producing acid from calcined rock (a "green" acid train) and one phosphoric acid train producing acid from uncalcined rock (an "amber" acid train) annually for sulfur dioxide. The normal production rate (hourly) shall be calculated by dividing the total annual production for the plant by the number of hours that plant was operated during that year. The facility shall establish the normal production rate using the production records for the last production year. Details of the emissions testing and requirements can be found in General Condition JJ. If the results of this test are above the limit given above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c).

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

d. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.5 A.1.c above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD), BACT

a. For the identified Phosphoric Acid trains the following table shall describe the emission standards:

Emission Source	Pollutant	Control Method	BACT Emission Limit
PA Train No. 1 (ep401, ep402, ep403)	Total fluorides	Crossflow packed scrubber (401 and 402), Cyclonic scrubber (403)	0.020 pound per ton P_2O_5 feed
PA Train No. 1 (ep401)	Sulfur dioxide	Crossflow packed scrubber	486 pounds per day
PA Train No. 2 (ep404)	Sulfur dioxide	Crossflow packed scrubber	486 pounds per day
PA Train No. 2 (ep403, ep404, ep405)	Total fluorides	Cyclonic scrubber (403), Crossflow packed scrubber (404 and 405)	0.020 pounds per ton P_2O_5 feed
PA Train No. 3 (ep406, ep407, ep408)	Total fluorides	Crossflow packed scrubber (406 and 407), Cyclonic scrubber (408)	0.020 pounds per ton P_2O_5 feed
PA Train No. 3 (ep406)	Hydrogen sulfide	Crossflow packed scrubber	435 pounds per day
PA Train No. 3 (ep406)	Sulfur dioxide	Crossflow packed scrubber	960 pounds per day
PA Train No. 4 (ep408, ep409, ep410)	Total fluorides	Cyclonic scrubber (403), Crossflow packed scrubber (409 and 410)	0.020 pounds per ton P_2O_5 feed
PA Train No. 4 (ep409)	Hydrogen sulfide	Crossflow packed scrubber	510 pounds per day
PA Train No. 4 (ep409)	Sulfur dioxide	Crossflow packed scrubber	960 pounds per day

Testing [15A NCAC 02Q .0508(f)]

b. The Permittee shall conduct a compliance test on Trains No. 3 or 4 to demonstrate compliance with the emission standards above for hydrogen sulfide. Details of the emissions testing and requirements can be found in General Condition JJ. Either Train No. 3 or 4 shall be tested once every five years at a rate demonstrable by production records to be equal to or greater than the normal production rate of the source. The normal production rate (hourly) shall be calculated by dividing the total annual production for the plant by the number of hours that plant was operated during that year. The facility shall establish the normal production rate using the production records over the last production year. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530. The results of this testing shall be saved for possible inclusion in future determinations of operating parameter ranges.

c. The Permittee shall conduct a compliance test on Train No. 3 or 4 and one compliance test on Trains No. 1 or 2 to demonstrate compliance with the emission standards listed above for sulfur dioxide. Details of the emissions testing

and requirements can be found in General Condition JJ. Either Train No. 1 or 2 and Train No. 3 or 4 shall be tested once every year at a rate demonstrable by production records to be equal to or greater than the normal production rate of the source. The normal production rate (hourly) shall be calculated by dividing the total annual production for the plant by the number of hours that plant was operated during that year. The facility shall establish the normal production rate using the production records over the last production year. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530. The results of this testing shall be saved for possible inclusion in future determinations of operating parameter ranges.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

d. The monitoring and recordkeeping requirements for demonstrating compliance given in Section 2.1.5 A.4.k through A.4.q below are deemed sufficient to demonstrate compliance with 15A NCAC 02D .0530. If the monitoring and recordkeeping are not conducted as specified in Section 2.1.5 A.4.k through A.4.q below, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0530.

e. The Permittee shall submit a summary report of testing, monitoring, and recordkeeping activities given in Section 2.1.5 A.2.b through A.2.d above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING – SO_2 and H_2S

a. Per 40 CFR 64 and 15A NCAC 02D .0614, the Permittee shall comply with the following compliance assurance monitoring (CAM) requirements.

Background

b. Emission Units:
   i. Reactor train No. 1 **(ID No. 421-201)**, tilting pan (Bird) filter No. 1 **(ID No. 421-000)**, tilting pan (bird) filter No. 1 primary vacuum pump installed on primary vacuum separator **(ID No. 421-325)**, secondary vacuum pump installed on secondary vacuum separator (ID No. 421-327), two barometric condenser vacuum pumps **(ID Nos. 421-223 and 421-232)**, barometric condensers hotwell **(ID No. 421-218)**, tilting pan (Bird) filter No. 1 seal tanks **(ID No. 421-330)**, and trench hood **(ID No. 421-225A)**
   ii. Belt filter No. 1 seal tanks **(ID No. 441-031)** and belt filter No. 1 feed hood **(ID No. 441-034)**
   iii. Reactor train No. 2 **(ID No. 422-201)**, tilting pan (Bird) filter No. 2 **(ID No. 422-000)**, tilting pan (Bird) filter No. 2 Primary vacuum pump installed on primary vacuum separator **(ID No. 422-325)**, secondary vacuum pump installed on secondary vacuum separator **(ID No. 422-327)**, two barometric condenser vacuum pumps **(ID Nos. 422 and 422-232)**, barometric condensers hotwell **(ID No. 422-218)**, tilting pan (Bird) filter No. 2 seal tanks **(ID No. 422-330)**, and trench hood **(ID No. 422-225A)**
   iv. Belt filter No. 2 feed hood **(ID No. 442-034)**
   v. Reactor train No. 3 **(ID No. 432-201)**, tilting pan (Bird) filter No. 3 **(ID No. 423-000)**, tilting pan (Bird) filter No. 3 primary vacuum pump installed on primary vacuum separator **(ID No. 423-325)**, secondary vacuum pump installed on secondary vacuum separator **(ID No. 432-327)**, two barometric condenser vacuum pumps **(ID Nos. 423-223 and 423-232)**, barometric condensers hotwell **(ID No. 432-218)**, and tilting pan (Bird) filter No. 3 seal tanks **(ID No. 423-330**
   vi. Belt filter No. 3 feed hood **(ID No. 443-034)**
   vii. Reactor train No. 4 **(ID No. 424-201)**, tilting pan (Bird) filter No. 4 **(ID No. 424-000)**, tilting pan (Bird) filter No. 4 primary vacuum pump installed on primary vacuum separator **(ID No. 424-325)**, secondary vacuum pump installed on secondary vacuum separator **(ID No. 424-327)**, two barometric condenser vacuum pumps **(ID Nos. 424-223 and 424-232)**, barometric condensers hotwell **(ID No. 424-218)**, and tilting pan (Bird) filter No. 4 seal tanks **(ID No. 424-330)**
   viii. Belt filter No. 4 seal tanks **(ID No. 444-031)** and belt filter No. 4 feed hood **(ID No. 444-034)**

c. Applicable Regulation, Emission Limit, and Monitoring Requirements
   i. Regulations:
      (A) 15A NCAC 02D .0501(c) for SO_2
      (B) 15A NCAC 02D .0530 for SO_2
      (C) 15A NCAC 02D .0530 for H_2S
   ii. Emission limits:
      (A) Allowable emissions of SO_2:
         (1) 486 pounds per day (Train No. 1 - measured at cross flow scrubber stacks)

(2) 486 pounds per day (Train No. 2 - measured at cross flow scrubber stacks)
(3) 961 pounds per day (Train No. 3 - measured at cross flow scrubber stacks)
(3) 961 pounds per day (Train No. 4 - measured at cross flow scrubber stacks)

(B) Allowable emissions of SO_2:
(1) 486 pounds per day (Train No. 1 - measured at cross flow scrubber stacks)
(2) 486 pounds per day (Train No. 2 - measured at cross flow scrubber stacks)
(3) 960 pounds per day (Train No. 3 - measured at cross flow scrubber stacks)
(3) 960 pounds per day (Train No. 4 - measured at cross flow scrubber stacks)

(C) Allowable emissions of H_2S:
(1) 510 pounds per day (Train No. 4)
(2) 435 pounds per day (Train No. 3)

iii. Control Technology:
(A) A spray cross-flow packed bed-type scrubber **(ID No. 451-225)**, ep401
(B) A cyclonic scrubber **(ID No. 442-061)**, ep403
(C) A spray cross-flow packed bed-type scrubber **(ID No. 422-225)**, ep404
(D) A cyclonic scrubber **(ID No. 442-061)**, ep403
(E) A spray cross-flow packed bed-type scrubber **(ID No. 423-225)**, ep406
(F) A cyclonic scrubber **(ID No. 443-061)**, ep408
(G) A spray cross-flow packed bed-type scrubber **(ID No. 424-225)**, ep409
(H) A cyclonic scrubber **(ID No. 443-061)**, ep408

Monitoring [15A NCAC 02D .0614, 15A NCAC 02D .0508(f)]

d. The Permittee shall continuously monitor the following parameters:
i. The pressure drop across each scrubber; and
ii. The water flow rate to the scrubber.

e. The monitoring requirements for demonstrating compliance with MACT Subpart AA given in Section 2.1.5 A.4.l through A.4.o below are deemed sufficient to demonstrate compliance with 15A NCAC 02D .614. If the monitoring is not conducted as specified in Section 2.1.5 A.4.l through A.4.o below, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0614.

f. Data Representativeness and QA/QC. The Permittee shall develop and implement a quality assurance program (QAP) for the device in accordance with the provisions of 15A NCAC 02D .0613. The QA/QC procedures specified in the site-specific monitoring plan developed and implemented in accordance with Section 2.1.5 A.4.e below may be used as a QAP if they meet the requirements of 15A NCAC 02D .0613.

Recordkeeping and Reporting [15A NCAC 02Q .0508(f), 40 CFR 64.9]

g. The Permittee shall comply with the recordkeeping requirements of 40 CFR 64.9(b) and submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The reports shall comply with the reporting requirements of 40 CFR 64.9(a) and include, at a minimum, the following information, as applicable:
i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
iii. A description of the actions taken to implement a Quality Improvement Plan (QIP) during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the Permittee shall include, in the next summary report, documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances.

h. Compliance with reporting requirements of 40 CFR Part 63 Subpart AA as listed in Section 2.1.5 A.4.t and A.4.u below shall satisfy the reporting requirements of Section 2.1.5 A.3.g.i and A.3.g.ii above, provided the reports required in 40 CFR Part 63 Subpart AA are amended as follows:
i. The report shall include the number of excursions or exceedance that occurred during the reporting period.
ii. A description of any corrective actions taken shall be included with the summary report when the total duration of control system exceedances is less than 1 percent of the total operating time or the continuous monitoring system downtime is less than 5 percent of the total operating time.

4. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart AA, Phosphoric Acid Manufacturing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart AA, "NESHAP from Phosphoric Acid Manufacturing Plants" including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.601]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.601 shall apply.

General Provisions [40 CFR 63.608]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA.

d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.608(b)]

e. The Permittee shall develop, and submit to the DAQ upon request, a site-specific monitoring plan for each continuous monitoring system (CMS) used to demonstrate compliance with any applicable emission limit or work practice standard. The plan must include the following information:
   i. Location of the CMS sampling probe or other interface.
   ii. Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems.
   iii. Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).
   iv. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1)(ii), (c)(3), (c)(4)(ii), and Table 4 to 40 CFR Part 63, Subpart AA.
   v. Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d)(1) and (2) and Table 5 to 40 CFR Part 63, Subpart AA.
   vi. Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i).
   vii. A schedule for conducting initial and subsequent performance evaluations.
   viii. The program of corrective action required under 40 CFR 63.8(d)(2).

   The Permittee shall maintain the site-specific monitoring plan on site for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the DAQ. If the site-specific monitoring plan is revised, the Permittee shall maintain previous (*i.e.*, superseded) versions of the plan on site to be made available for inspection, upon request, by the DAQ, for a period of 5 years after each revision to the plan. [40 CFR 63.608(c)]

Emission limits [15A NCAC 02Q .0508(f)

f. Phosphoric acid trains shall not discharge any gases which contain total fluorides in excess of 0.020 lb/ton of equivalent P_2O_5 feed. [40 CFR 63.602(a) and Table 1 of Subpart AA]

Testing [15A NCAC 02Q .0508(f)]

g. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.5 A.4.f above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

h. The Permittee shall conduct performance tests on the phosphoric acid trains **(ep 401 through ep409)**, except as specified in Section 2.1.5 A.4.i below. The Permittee shall conduct the annual testing in accordance with General Condition JJ and the following paragraphs. The Permittee shall use as reference methods and procedures the test methods in 40 CFR Part 60, Appendix A or other methods and procedures as specified in 40 CFR 63.606. [40 CFR 63.606(b) and (e)]
   i. Each phosphoric acid trains **(ep 401 through ep409)** shall be tested annually at representative (normal) conditions for the process. Representative (normal) conditions mean those conditions that:

(A) Represent the range of combined process and control measure conditions under which the emission source expects to operate (regardless of the frequency of the conditions); and
(B) Are likely to most challenge the emissions control measures of the emission source with regard to meeting the emission standards in Section 2.1.5 A.4.f above, but without creating an unsafe condition. Operations during startup, shutdown, and malfunction do not constitute representative (normal) operating conditions for purposes of conducting a performance test.

[40 CFR 63.606(d)(1)]

ii. The Permittee shall record the process information that is necessary to document the operating conditions during the test and include in such record an explanation to support that such conditions represent representative (normal) conditions. Upon request, the Permittee shall make available to DAQ such records as may be necessary to determine the conditions of performance tests. [40 CFR 63.606(d)(2)]

iii. During the most recent performance test, if compliance is demonstrated with the emission limit while operating the control device outside the previously established operating limit, the Permittee shall establish a new operating limit based on that most recent performance test and notify DAQ that the operating limit changed based on data collected during the most recent performance test. [40 CFR 63.607(a)]

(A) When a phosphoric acid train **(ep 401 through ep409)** is retested and the performance test results are submitted to DAQ, the Permittee shall indicate whether the operating limit is based on the new performance test or the previously established limit.
(B) Upon establishment of a new operating limit, the Permittee shall thereafter operate under the new operating limit. If DAQ determines that the Permittee did not conduct the compliance test in accordance with the applicable requirements or that the operating limit established during the performance test does not correspond to representative (normal) conditions, the Permittee shall conduct a new performance test and establish a new operating limit.

If the results of the performance test are above the limits given in Section 2.1.5 A.4.f above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111. [40 CFR 63.606(b)]

i. As allowed pursuant to 40 CFR 63.7(e)(2)(iv), the Permittee shall conduct a performance test on each of the belt filter vacuum pumps **(ID Nos. 441-015, 442-015, 443-015, and 444-015)** once every five years (not to exceed 60 months between performance tests). The performance test shall be conducted as specified in Section 2.1.5 A.4.h above. If the total fluorides emissions from a phosphoric acid train calculated as the sum of the emissions measured during the annual performance test required in Section 2.1.5 A.4.h above, including the total fluorides emissions from the belt filter vacuum pumps, measured during the performance test are greater than 80 percent of the emissions limit specified in Section 2.1.5 A.4.f above, the Permittee shall resume performance testing on an annual basis for the phosphoric acid train that exceeded the 80% limit. Following the next two consecutive compliance tests that are less than 80% of the emission limit the Permittee may resume testing the belt filter vacuum pump for that train once every 5 years (no more than 60 months between performance tests). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the performance test is not conducted as required.

j. For each phosphoric acid plant **(ep 401 through ep409)** that has not operated since the previous annual performance test was conducted and more than 1 year has passed since the previous performance test, the Permittee shall conduct a performance test no later than 180 days after the re-start of the source according to the applicable provisions in 40 CFR 63.7(a)(2). [40 CFR 63.606(c)]

k. If the new parametric operating values re-established during periodic testing are more stringent than the current operating ranges or limits, the Permittee shall submit a request to revise the value(s) in the permit at the same time the test report required pursuant to General Condition JJ is submitted. The permit revision will be processed pursuant to 15A NCAC 02Q .0514. If, during performance testing, the new parametric operating values are less stringent, the Permittee may request to revise the value(s) in the permit pursuant to 15A NCAC 02Q .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f), 40 CFR 63.605, 40 CFR 63.607]

l. The Permittee shall install, calibrate, maintain, and operate a CMS according to the site-specific monitoring plan specified in Section 2.1.5 A.4.e above. The Permittee shall install a CMS with an accuracy of ±5 percent over its operating range and must determine and permanently record the mass flow of phosphorus-bearing feed material to each phosphoric acid plant **(ep401 through ep408)**. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the feed material mass flow is not monitored as required. [40 CFR 63.605(a)(1)(i)]

m. In accordance with the alternative monitoring plan approved by the DAQ pursuant with 40 CFR 63.8(f), the Permittee shall install and operate a CPMS on each crossflow scrubber **(ID Nos. 421-225, 422-225, 423-225, and 424-225)** that meets the following:

i. Continuously measures the influent liquid flow to determine the minimum influent liquid-to-gas ratio (L/G ratio). The L/G ratio shall be calculated using the continuous liquid flow rates and the Gmax determined from the designer's specifications. The L/G ratio shall be required every 15-minute and these readings shall be used to

determine a daily average of the L/G ratio. [40 CFR 605(d)(2), Table 4 of 40 CFR Part 63, Subpart AA 40 CFR 63.8(f)]

ii. Complies with the calibration and quality control requirements that are applicable to the flow rate specified in Table 5 of 40 CFR Part 63, Subpart AA. [40 CFR 605(d)(3)]

iii. The Permittee has submitted the results of previous tests to demonstrate the minimum influent liquid flows for the crossflow scrubbers are as follows:

(A) Crossflow scrubber on Phosphoric Acid Train No. 1 **(ID No. 421-225)** is 715 gpm,
(B) Crossflow scrubber on Phosphoric Acid Train No. 2 **(ID No. 422-225)** is 716 gpm,
(C) Crossflow scrubber on Phosphoric Acid Train No. 3 **(ID No. 423-225)** is 750 gpm, and
(D) Crossflow scrubber on Phosphoric Acid Train No. 4 **(ID No. 424-225)** is 714 gpm.

If the daily averages of the minimum influent liquid flow are below the allowable limits an exceedance will have occurred.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the CPMS on the crossflow scrubbers are not installed and operated as required above.

n. The Permittee shall install and operate a CPMS on each cyclonic scrubber **(ID Nos. 443-061 and 442-061)** that meets the following:

i. Continuously measures the influent liquid flow and pressure drop through the adsorber; records the influent liquid flow and pressure drop through the adsorber every fifteen (15) minutes and calculates daily averages to demonstrate continuous compliance with the minimum influent liquid flow and pressure drop. [40 CFR 63.625(d)(2) and (3) and Table 4 of 40 CFR Part, 63 Subpart AA]

ii. Complies with the calibration and quality control requirements that are applicable to the flow rate and pressure as specified in Table 5 of 40 CFR Part 63, Subpart AA. [40 CFR 605(d)(3)]

iii. The Permittee has submitted the results of previous tests to demonstrate the minimum influent liquid flows for the cyclonic scrubbers are as follows:

(A) Cyclonic scrubber in Phosphoric Acid Trains 1 and 2 **(ID No. 442-061)**, pressure drop 6.8 to 9.3 inches of water, minimum influent liquid flow, 50 gpm, and
(B) Cyclonic scrubber in Phosphoric Acid Trains 3 and 4 **(ID No. 443-061)** , pressure drop 6.8 to 9.3 inches of water, minimum influent liquid flow, 50 gpm.

If the daily average of the minimum influent liquid flow or the pressure drop is below the allowable limit an exceedance will have occurred.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the CPMS on the cyclonic scrubbers are not installed and operated as required above.

o. The Permittee shall demonstrate compliance with the emissions standards in Section 2.1.5 A.4.f above using the procedures in 40 CFR 63.606(f) through (i). In computing averages to determine compliance the Permittee shall exclude the monitoring data specified below. [40 CFR 63.606 and 63.607(d)]

i. Periods of non-operation of the phosphoric acid plants;

ii. Periods of no flow to the cross flow wet scrubbers or cyclonic scrubbers; and any monitoring data recorded during CPMS breakdowns, out-of-control periods, repairs, maintenance periods, instrument adjustments or checks to maintain precision and accuracy, calibration checks, and zero (low-level), mid-level (if applicable), and high-level adjustments in computing the daily average of minimum influent liquid flow to the cross flow wet scrubbers or cyclonic scrubbers.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the average monitoring parameters are not calculated as required above.

p. The Permittee shall conduct a performance evaluation, as specified in 40 CFR 63.8(e), in accordance with the site-specific monitoring plan required in Section 2.1.5 A.4.e above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the performance evaluation is not conducted as required. [40 CFR 63.606(m)]

q. The Permittee shall record in a logbook (written or electronic format) the following:

i. A daily record of phosphate rock feed by determining the total mass rate in short ton/hour of phosphorus bearing feed using a monitoring system for measuring mass flow rate. [40 CFR 63.605(a)(2)]

ii. Influent liquid flow to each crossflow scrubber and cyclonic scrubber. [40 CFR 63.605(d)(2)]

iii. Pressure drop through each cyclonic scrubber [40 CFR 63.605(d)(2)]

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these records are not kept or if any exceedances of the limits in Section 2.1.5 A.4.l and A.4.m above are not determined.

r. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may

keep the records off site for the remaining 3 years. [40 CFR 63.607(b)(1) and (c)] The Permittee shall be deemed in noncompliance if these requirements are not met.

Start-up, Shutdown, and Malfunction Procedures [40 CFR 63.602(f)]

s. During periods of startup and shutdown, as defined in 40 CFR 63.601, the Permittee shall comply with the work practice specified in this paragraph in lieu of the emission limits specified in Section 2.1.5 A.4.f above. During periods of startup and shutdown, the Permittee shall operate the crossflow scrubbers and cyclonic scrubbers use on the phosphoric acid plants, monitor the influent liquid flow and pressure drop in accordance with Section 2.1.5 A.4.l and A.4.m above, and comply with the operating limits specified in Section 2.1.5 A.4.1.iii and m.iii above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Reporting [15A NCAC 02Q .0508(f)]

t. Summary report. If the total duration of control system exceedances for the reporting period is less than 1 percent of the total operating time for the reporting period or if CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, the Permittee shall submit a summary report containing the information specified in 40 CFR 63.10(e)(3)(iv) rather than the full excess emissions report. The summary report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. [40 CFR 63.607(b)(5), 40 CFR 63.10(e)(3)(vii)]

u. Excess emissions report. If the total duration of control system operating parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period or if the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Permittee shall submit both a Summary Report and an excess emissions report for any exceedance of an operating parameter limit. The report shall contain the information specified in 40 CFR 63.10 and 40 CFR 63.607(b)(4). The report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. If exceedances are reported, the Permittee shall report quarterly until a request to reduce reporting frequency is approved as described in 40 CFR 63.10. [40 CFR 63.607(b)(3) and (5), 40 CFR 63.10(e)(3)(viii)]

v. EPA Electronic Reporting Tool. Within 60 days after the date of completing each performance test (defined in 40 CFR 63.2) as required by 40 CFR Part 63, Subpart AA, the Permittee shall submit the results of the performance tests, including any associated fuel analyses, to the DAQ pursuant to 40 CFR 63.10(d)(2) and to the EPA via the procedures in 40 CFR 63.607(e)(1) or (2).

w. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the reporting requirements in Section 2.1.5 A.4.t through A.4.v above are not met.

5. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS
for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530(g), the Phosphoric Acid trains shall discharge into the atmosphere less than:
   i. 2,207.61 tons of total reduced sulfur (TRS) from all four trains on a rolling 12-month basis, and
   ii. 1,728.3 tons of total TRS from Trains 1, 2, and 4 on a rolling 12-month basis when processing calcined rock.

Testing [15A NCAC 02Q .0508(f)]

b. In order to verify the accuracy of the average emission factor listed in Section 2.1.5 A.5.e below, the Permittee shall test for H_2S emissions from the cross flow scrubber stack of one green acid train at least once per every permit term. In addition, subsequent to the first time that the normal production rate (defined below) at any green acid train exceeds 1,350 tons per day, a test of H_2S emissions will be required. A test triggered by exceeding 1,350 tons per day will satisfy the once per every permit term testing requirement. The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0530 if these tests are not conducted.

c. Testing shall be performed in accordance with 40 CFR 60 Appendix A, Reference Method 16A (Determination of TRS Emissions from Stationary Sources) or an approved alternative method as described in 40 CFR 60.8(b) and as approved by the DAQ. The performance test shall be performed at production rates equal to or greater than the normal production rate. The normal production rate shall be determined by dividing the total annual production from the most recent production year by the number of hours operated during the previous 12 months. The test results must be submitted to the Regional Supervisor, DAQ, in accordance with the approved procedures of the Environmental

Management Commission within 30 days of test completion. The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0530 if these requirements are not met.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

d. The Permittee shall use the production logbook (written or electronic form), as required in Section 2.1.5 A.4.l above, along with the emission factors detailed below to demonstrate compliance with emission limits in Section 2.1.5 A.5.a, above. To ensure the yearly emission limits are not exceeded, the yearly production shall be limited as follows:
   i. The production of phosphoric acid from calcined rock shall be limited to a P_2O_5 input rate of 815,217 tons per year, calculated each month for the previous twelve (12) months;
   ii. The production of phosphoric acid from uncalcined rock at Trains 3 and 4 shall be limited to a P_2O_5 input rate of 981,120 tons per year, calculated each month for the previous twelve (12) months; and
   iii. The production of phosphoric acid from uncalcined rock at Train 4 shall be limited to a P_2O_5 input rate of 535,000 tons per year, calculated each month for the previous twelve (12) months (Note: This limit was accepted as part of the 2004 PSD review analysis).

   If a production rate is above these limits for any consecutive 12-month period, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

e. The Permittee shall use the following emission factors to determine if the emission limits above are exceeded:
   i. For TRS emissions from trains processing calcined rock: 4.24 lb/ton of P_2O_5 feed;
   ii. For TRS emissions from Trains 3 and 4 processing uncalcined rock: 0.30 lb/ ton of P_2O_5 feed.

   If the results of the above calculations show emissions above any of the limits in Section 2.1.5 A.5.a, above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Reporting [15A NCAC 02Q .0508(f)]

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.5 A.5.d and A.5.e above, postmarked on or before January 30 for the preceding six-month period between July and December and July 30 for the preceding six-month period between January and June. The report shall contain the following:
   i. For production using uncalcined and calcined rock, the monthly TRS emissions for the previous 17 months and the annual total TRS emissions for each of the six 12-month periods over the previous 17 months (calculations must be included);
   ii. The monthly P_2O_5 input rates for calcined and uncalcined rock for the previous 17 months and the annual totals for calcined and uncalcined P_2O_5 input rates for each of the six12-month periods over the previous 17 months; and
   iii. The daily P_2O_5 input rate for calcined and uncalcined rock for the previous semiannual period.

   All instances of deviations from the requirements of this permit must be clearly identified.

State-enforceable only

6. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for
15A NCAC 02D .1100: TOXIC AIR POLLUTANT EMISSION LIMITATIONS AND REQUIREMENTS

a. In accordance with 15A NCAC 02Q .0317 and to avoid the applicability of 15A NCAC 02D .1100, the following operational limits shall not be exceeded:
   i. Only two trains (of trains 1, 2, or 4 which are the three trains capable of processing calcined rock) may process calcined rock at any given time for "green" acid. Only trains 3 and 4 may process uncalcined rock at any given time for "amber" acid.
   ii. All four trains of the phosphoric acid plant may manufacture phosphoric acid solely by the wet process operating in the dihydrate mode.
   iii. The phosphoric acid plant may use phosphate ore sources other than PCS Phosphate Aurora (outside ore) in the manufacture of green or amber acid. During any given day, however, the ore used in the manufacture of green or amber acid may only come from two separate places including Aurora ore. The maximum outside ore content shall be determined by a compliant source test for fluoride, sulfur dioxide, total reduced sulfur or other pollutants as deemed necessary by the division. To be a compliant source test, it must be submitted and accepted in writing by the division. The Permittee shall notify the Division 30 days before any test that is anticipated to be used as a compliant source test to change the maximum allowable outside ore content as defined above; ore from each different mine or area will be tested separately. The Permittee shall conduct a compliance test within 60 days of beginning manufacture of acid using the new ore. If the compliance test does not show compliance with any applicable air standard, the Permittee will be considered out of compliance with that standard for all days of operation with the new ore. At the discretion of the Division, the Permittee may use the results of the test to satisfy other requirements for a compliance test on the green or amber acid train for these three pollutants. However, the Permittee must declare their intention to use the test for such purposes in advance and will be held to the results of

the test. The division will notify the Permittee in writing of the results of the compliance test. The division's letter will be kept on site attached to the current Air Permit. Use of outside ore will be limited to the percentage of total ore feed used for the compliance test. On-going compliance with this provision will be demonstrated based on a monthly average of daily records.

Monitoring/Recordkeeping

b. The Permittee shall use the production logbook (written or electronic form), as required in Section 2.1.5 A.4.l above, and other production records to document the compliance with the above operational practices limits.

Reporting

c. The Permittee shall submit a summary report of monitoring and recordkeeping postmarked on or before January 30 for the preceding six-month period between July and December and July 30 for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

State-enforceable only

7. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for
15A NCAC 02D .1100: TOXIC AIR POLLUTANT EMISSION LIMITATIONS AND REQUIREMENTS

a. In accordance with 15A NCAC 02Q .0317 and to avoid the applicability of 15A NCAC 02D .1100, the following operational limits shall not be exceeded:
   i. The feed rate (calcined rock) to trains 1, 2 or 4 shall not exceed 1,450 tons P_2O_5 per calendar day.
   ii. The feed rate (uncalcined rock) to train 3 shall not exceed 1,450 tons P_2O_5 per calendar day.
   iii. The feed rate (uncalcined rock) to train 4 shall not exceed 1,700 tons P_2O_5 per calendar day.

Testing

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ.

Monitoring/Recordkeeping

c. The Permittee shall use the production logbook (written or electronic form),as required in Section 2.1.5 A.4.l above, to document the compliance with the above requirement.

Reporting

d. The Permittee shall submit a summary report of monitoring and recordkeeping postmarked on or before January 30 for the preceding six-month period between July and December and July 30 for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2.1.5 B Four phosphoric acid storage tanks (ID Nos. 433-188 (020), 433-001 (030), 433-010 (031), and 433-050 (040)) controlled by a venturi scrubber (ID No. 453-056), ep421

Four phosphoric acid/green acid storage tanks (ID Nos. 433-020 (032), 433-030 (033), 433-120 (034), and 433-100 (060)) and one carbon storage tank (ID No. 433-140) controlled by a venturi scrubber (ID No. 433-036), ep422

Slurry mix tank (ID No. 426-156) and one clarifier tank (T100) (ID No. 433-158) controlled by a venturi scrubber operated only during defluorinated acid production (ID No. 426-165), ep450

Four HFSA Tanks (ID Nos. 428-440, 428-442, 428-445, and 428-450) and one carbon day tank (ID No. 433-183), ep492

Clarifier tank (080) (ID No. 433-127) controlled by one venturi scrubber (ID No. 433-133), ep423

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	**State-enforceable only** The clarifier tank **(ID No. 433-127)** shall not be vented to the atmosphere without the emissions first being treated by the scrubber **(ID No. 433-133)**.	15A NCAC 02D .1100
	State-enforceable only **See Section 2.2 A.1 and Attachment 1**	

State-enforceable only

1. 15A NCAC 02D .1100: TOXIC AIR POLLUTANT EMISSION LIMITATIONS AND REQUIREMENTS

a. When in filling operations, the clarifier tank **(ID No. 433-127)** shall not be vented to the atmosphere without the emissions first being treated by the scrubber **(ID No. 433-133)**. The scrubber shall be operated and a scrubbant flow rate shall be maintained whenever emissions from the clarifier tank are vented to it during filling operations.

Reporting

b. The Permittee shall submit a summary report of monitoring and recordkeeping postmarked on or before January 30 for the preceding six-month period between July and December and July 30 for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2.1.5 C Two phosphate rock jet conveyors on reactor train No. 1 (ID Nos. 429-002 and 421-115) controlled with bagfilter (ID No. 421-103), ep430

Two phosphate rock jet conveyors on reactor train No. 2 (ID Nos. 429-005 and 422-115) controlled with bagfilter (ID No. 422-103), ep431

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Particulate Matter PM_{10}	10.7 pounds per day	15A NCAC 02D .0530
	Compliance Assurance Monitoring (CAM) Plan	15A NCAC 02D .0614
Total Fluoride	0.0178 pounds per hour	15A NCAC 02D .0530
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

1. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.5 C.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. To ensure compliance, once a month the Permittee shall observe the emission points of this source for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. If visible emissions from this source are observed to be above normal, the Permittee shall either:
   i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1.5 C.1.a above.

   The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required monthly observations are not conducted as required or if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made.

d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
   iii. The results of any corrective actions performed.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.5 C.1.c and C.1.d above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD), BACT

a. For the identified Phosphoric Acid trains the following table shall describe the emission standards:

Emission Source	Pollutant	Control Method	BACT Emission Limit
PA No. 1 Rock Transfer Point conveyor GS-103 and PA Train 1 transfer point (ep 430)	Total fluorides	Enclosure and fabric filtration	1.78×10^{-2} pound per hour
PA No. 1 Rock Transfer Point conveyor GS-103 and PA Train 1 transfer point (ep 430)	PM_{10}	Enclosure and fabric filtration	10.7 pounds per day
PA No. 2 Rock Transfer Point conveyor GS-203 and PA Train 2 transfer point (ep 431)	Total fluorides	Enclosure and fabric filtration	1.78×10^{-2} pound per hour
PA No. 2 Rock Transfer Point conveyor GS-203 and PA Train 2 transfer point (ep 431)	PM_{10}	Enclosure and fabric filtration	10.7 pounds per day

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.5 C.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from the conveyor belt drop point shall be controlled by the bagfilter. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. A monthly visual inspection of the system ductwork and material collection unit for leaks; and
   ii. An annual (for each 12-month period following the initial inspection) internal inspection of the bagfilter's structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the ductwork and bagfilters are not inspected and maintained.

d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection;
   iii. The results of any maintenance performed on the bagfilters; and
   iv. Any variance from manufacturer's recommendations, if any, and corrections made.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit the results of any maintenance performed on the bagfilter within 30 days of a written request by the DAQ.

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.5 C.2.c and C.2.d above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING – PM_{10}

a. Per 40 CFR 64 and 15A NCAC 02D .0614, the Permittee shall comply with the following compliance assurance monitoring (CAM) requirements.

Background

a. Emission Units:
   i. Two phosphate rock jet conveyors on reactor train No. 1 **(ID Nos. 429-002 and 421-115)**
   ii. Two phosphate rock jet conveyors on reactor train No. 2 **(ID Nos. 429-005 and 422-115)**

c. Applicable Regulation, Emission Limit, and Monitoring Requirements
   i. Regulation:
   15A NCAC 02D .0530
   ii. Emission limits:
   10.7 pounds PM_{10} per day
   iii. Control Technology:
   (A) Bagfilter **(ID No. 421-103)**
   (B) Bagfilter **(ID No. 422-103)**

Monitoring Approach

d. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criteria are presented in the following table. The Permittee may use either indicator as appropriate. However, on any day in which one indicator is used, the other indicator may not also be utilized.

Measure	Indicator 1 – Visible Emissions	Indicator 2 – Differential Pressure Drop
I. Indicator Measuring approach	A visible emissions (VE) observation from the bagfilters **(ID Nos. 421-103 and 422-103)** will be conducted daily for visible emissions above normal.	A daily instantaneous differential pressure reading across the bagfilters **(ID Nos. 421-103 and 422-103)**.
II. Indicator Range	An excursion is defined as the presence of above normal emissions. The Permittee shall take appropriate action to correct the above-normal emissions as soon as possible. The Permittee shall take corrective action such as the following: i. Take appropriate action to correct the above-normal emissions as soon as practicable and verify that the corrective action returned visible emissions to within normal; or ii. Demonstrate that opacity does not exceed 20 percent opacity standard in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes. An excursion will trigger corrective action to return emissions to normal as soon as possible and recordkeeping and reporting in accordance with Section 2.1.5 C.3.e below.	An excursion is defined as an instantaneous differential pressure reading outside the following indicator range: Pressure drop: 1.0 to 8.0 inches of water Excursion triggers corrective action and recordkeeping and reporting in accordance with Section 2.1.5 C.3.e below .
	The QIP threshold is excursions occurring on five days (consecutive or non-consecutive days) in a six-month reporting period.	

Measure	Indicator 1 – Visible Emissions	Indicator 2 – Differential Pressure Drop
III. Performance Criteria		
Data Representativeness	Visible emissions shall be observed at the emissions point (each bagfilter **(ID Nos. 421-103 and 422-103)** exhaust).	Pressure drop measured across the bagfilters **(ID Nos. 421-103 and 422-103)**
QA/QC Practices and Criteria	Method 9 observations are conducted by a certified Reference Method 9 observer.	Pressure gauge and transducer (if equipped with transducer) calibration shall be performed according to manufacturer recommendations (or standard industry practice if there are no manufacturer recommendations). Pressure taps checked for plugging during calibration.
Monitoring frequency	A VE observation shall be performed daily, when operating.	Pressure drop is measured continuously.
Data Collection Procedures	The VE observation is recorded by the observer.	Pressure drop is manually recorded daily.
Averaging Period	N/A	N/A

Recordkeeping and Reporting [15A NCAC 02Q .0508(f), 40 CFR 64.9]

e. The Permittee shall comply with the recordkeeping requirements of 40 CFR 64.9(b) and submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The reports shall comply with the reporting requirements of 40 CFR 64.9(a) and include, at a minimum, the following information, as applicable:
   i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
   ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
   iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the Permittee shall include, in the next summary report, documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances.

2.1.5 D Phosphate rock storage silo No. 1 (ID No. 429-152) and three transfer points (ID Nos. 429-001, 429-004, and 429-151) controlled by a bagfilter (ID No. 429-014), ep434

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Particulate Matter PM_{10}	8.74 pounds per day	15A NCAC 02D .0530
	Compliance Assurance Monitoring (CAM) Plan	15A NCAC 02D .0614
Total Fluoride	0.0146 pounds per hour	15A NCAC 02D .0530
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

1. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.5 D.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. To ensure compliance, once a month the Permittee shall observe the emission points of this source for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. The results of these observations shall be recorded in a logbook (written or electronic form).
   i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1.5 D.1.a above.

   The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required monthly observations are not conducted as required or if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made.

d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
   iii. The results of any corrective actions performed.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.5 D.1.c and D.1.d above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD), BACT

a. For the identified Phosphoric Acid trains the following table shall describe the emission standards:

Emission Source	Pollutant	Control Method	BACT Emission Limit
PA Rock Transfer Points conveyor 70-2 transfer point (ep434)	Total fluorides	enclosure and fabric filtration	1.46×10^{-2} pound per hour
PA Rock Transfer Points conveyor 70-2 transfer point (ep434)	PM_{10}	enclosure and fabric filtration	8.74 pounds per day

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.5 D.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from the conveyor belt drop point shall be controlled by the bagfilter. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. A monthly visual inspection of the system ductwork and material collection unit for leaks; and
   ii. An annual (for each 12-month period following the initial inspection) internal inspection of the bagfilter's structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the ductwork and bagfilters are not inspected and maintained.

d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection;
   iii. The results of any maintenance performed on the bagfilters; and
   iv. Any variance from manufacturer's recommendations, if any, and corrections made.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit the results of any maintenance performed on the bagfilter within 30 days of a written request by the DAQ.

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.5 D.2 c and D.2.d above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING – PM_{10}

a. Per 40 CFR 64 and 15A NCAC 02D .0614, the Permittee shall comply with the following compliance assurance monitoring (CAM) requirements.

Background

b. Emission Units:
   i. Phosphate rock storage silo No. 1 **(ID No. 429-152)**
   ii. Three transfer points **(ID Nos. 429-001, 429-004, and 429-151)**

c. Applicable Regulation, Emission Limit, and Monitoring Requirements
   i. Regulation:
   15A NCAC 02D .0530

ii. Emission limits:
8.74 pounds PM_{10} per day
iii. Control Technology:
Bagfilter **(ID No. 429-014)**

Monitoring Approach

d. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criteria are presented in the following table. The Permittee may use either indicator as appropriate. However, on any day in which one indicator is used, the other indicator may not also be utilized.

Measure	Indicator 1 – Visible Emissions	Indicator 2 – Differential Pressure Drop
I. Indicator Measuring approach	A visible emissions (VE) observation from the bagfilters **(ID Nos. 421-103 and 422-103)** will be conducted daily for visible emissions above normal.	A daily instantaneous differential pressure reading across the bagfilters **(ID Nos. 421-103 and 422-103)**
II. Indicator Range	An excursion is defined as the presence of above normal emissions. The Permittee shall take appropriate action to correct the above-normal emissions as soon as possible. The Permittee shall take corrective action such as the following: i. Take appropriate action to correct the above-normal emissions as soon as practicable and verify that the corrective action returned visible emissions to within normal; or ii. Demonstrate that opacity does not exceed 20 percent opacity standard in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes. An excursion will trigger corrective action to return emissions to normal as soon as possible and recordkeeping and reporting in accordance with Section 2.1.5 C.3.e below.	An excursion is defined as an instantaneous differential pressure reading outside the following indicator range: Pressure drop: 1.0 to 8.0 inches of water Excursion triggers corrective action and recordkeeping and reporting in accordance with Section 2.1.5 C.3.e below .
	The QIP threshold is excursions occurring on five days (consecutive or non-consecutive days) in a six-month reporting period.	

Measure	Indicator 1 – Visible Emissions	Indicator 2 – Differential Pressure Drop
III. Performance Criteria		
Data Representativeness	Visible emissions shall be observed at the emissions point (each bagfilter **(ID Nos. 421-103 and 422-103)** exhaust).	Pressure drop measured across the bagfilters **(ID Nos. 421-103 and 422-103)**
QA/QC Practices and Criteria	Method 9 observations are conducted by a certified Reference Method 9 observer.	Pressure gauge and transducer (if equipped with transducer) calibration shall be performed according to manufacturer recommendations (or standard industry practice if there are no manufacturer recommendations). Pressure taps checked for plugging during calibration.
Monitoring frequency	A VE observation shall be performed daily, when operating.	Pressure drop is measured continuously.
Data Collection Procedures	The VE observation is recorded by the observer.	Pressure drop is manually recorded daily.
Averaging Period	N/A	N/A

Recordkeeping and Reporting [40 CFR 64.9][15A NCAC 02Q .0508(f)]

e. The Permittee shall comply with the recordkeeping requirements of 40 CFR 64.9(b) and submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The reports shall comply with the reporting requirements of 40 CFR 64.9(a) and include, at a minimum, the following information, as applicable:
   i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
   ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
   iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the Permittee shall include, in the next summary report, documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances.

2.1.5 E Phosphate Rock Transfer House (ID No. 429-150) controlled by a bagfilter (ID No. 429-168), ep437

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Particulate Matter PM_{10}	6.58 pounds per day	15A NCAC 02D .0530
	Compliance Assurance Monitoring (CAM) Plan	15A NCAC 02D .0614
Total Fluoride	0.0110 pounds per hour	15A NCAC 02D .0530
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

1. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.5 E.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping [15 NCAC 02Q .0508(f)]

c. To ensure compliance, once a month the Permittee shall observe the emission points of this source for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. If visible emissions from this source are observed to be above normal, the Permittee shall either:
   i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1.5 E.1.a above.

   The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required monthly observations are not conducted as required or if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made.

d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
   iii. The results of any corrective actions performed.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.5 E.1.c and E.1.d above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD) BACT

a. For the identified Phosphoric Acid processes the following table shall describe the emission standards:

Emission Source	Pollutant	Control Method	BACT Emission Limit
PA Rock Transfer Point conveyor 70-1 and 70-2 transfer point (ep437)	Total fluorides	Enclosure and fabric filtration	1.10×10^{-2} lb/hr
PA Rock Transfer Point conveyor 70-1 and 70-2 transfer point (ep437)	PM_{10}	Enclosure and fabric filtration	6.58 lb/day

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.5 E.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from the conveyor belt drop point shall be controlled by the bagfilter. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. A monthly visual inspection of the system ductwork and material collection unit for leaks; and
   ii. An annual (for each 12-month period following the initial inspection) internal inspection of the bagfilter's structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the ductwork and bagfilters are not inspected and maintained.

d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection;
   iii. The results of any maintenance performed on the bagfilters; and
   iv. Any variance from manufacturer's recommendations, if any, and corrections made.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit the results of any maintenance performed on the bagfilter within 30 days of a written request by the DAQ.

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.5 E.2.c and E.2.d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING – PM_{10}

a. Per 40 CFR 64 and 15A NCAC 02D .0614, the Permittee shall comply with the following compliance assurance monitoring (CAM) requirements.

Background

b. Emission Units:
Phosphate rock transfer house **(ID No. 429-150)**

c. Applicable Regulation, Emission Limit, and Monitoring Requirements
   i. Regulation:
   15A NCAC 02D .0530
   ii. Emission limits:
   6.58 pounds PM_{10} per day
   iii. Control Technology:
   Bagfilter **(ID No. 429-168)**

Monitoring Approach

d. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criteria are presented in the following table. The Permittee may use either indicator as appropriate. However, on any day in which one indicator is used, the other indicator may not also be utilized.

Measure	Indicator 1 – Visible Emissions	Indicator 2 – Differential Pressure Drop
I. Indicator Measuring approach	A visible emissions (VE) observation from the from the bagfilter **(ID No. 429-168)** will be conducted daily for visible emissions above normal.	A daily instantaneous differential pressure reading across the bagfilter **(ID No. 429-168).**
II. Indicator Range	An excursion is defined as the presence of above normal emissions. The Permittee shall take appropriate action to correct the above-normal emissions as soon as possible. The Permittee shall take corrective action such as the following: i. Take appropriate action to correct the above-normal emissions as soon as practicable and verify that the corrective action returned visible emissions to within normal; or ii. Demonstrate that opacity does not exceed 20 percent opacity standard in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes. An excursion will trigger corrective action to return emissions to normal as soon as possible and recordkeeping and reporting in accordance with Section 2.1.5 E.3.e below.	An excursion is defined as an instantaneous differential pressure reading outside the following indicator range: Pressure drop: 1.0 to 8.0 inches of water Excursion triggers corrective action and recordkeeping and reporting in accordance with Section 2.1.5 E.3.e below.
	The QIP threshold is excursions occurring on five days (consecutive or non-consecutive days) in a six-month reporting period.	

Measure	Indicator 1 – Visible Emissions	Indicator 2 – Differential Pressure Drop
III. Performance Criteria		
Data Representativeness	Visible emissions shall be observed at the emissions point (bagfilter **(ID No. 429-168)** exhaust).	Pressure drop measured across the bagfilter **(ID No. 429-168).**
QA/QC Practices and Criteria	Method 9 observations are conducted by a certified Reference Method 9 observer.	Pressure gauge and transducer (if equipped with transducer) calibration shall be performed according to manufacturer recommendations (or standard industry practice if there are no manufacturer recommendations). Pressure taps checked for plugging during calibration.
Monitoring frequency	A VE observation shall be performed daily, when operating.	Pressure drop is measured continuously.
Data Collection Procedures	The VE observation is recorded by the observer.	Pressure drop is manually recorded daily.
Averaging Period	N/A	N/A

Recordkeeping and Reporting [15A NCAC 02Q .0508(f), 40 CFR 64.9]

e. The Permittee shall comply with the recordkeeping requirements of 40 CFR 64.9(b) and submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The reports shall comply with the reporting requirements of 40 CFR 64.9(a) and include, at a minimum, the following information, as applicable:
   i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
   ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
   iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the Permittee shall include, in the next summary report, documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances.

2.1.5 F Diatomaceous Earth Silo (ID No. 426-154) controlled by a bagfilter (ID No. 426-161), ep451

Additive Storage Silo (ID No. 426-240) controlled by a fabric filter (ID No. 426-242), ep494

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10 \times P^{0.67}$ (for process rates $\leq$ 30 tons per hour) Where: E = allowable emission rate in pounds per hour P = rock throughput in tons per hour	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
PM_{10}	(**ID No. 426-154 only**) Compliance Assurance Monitoring (CAM) Plan	15A NCAC 02D .0614

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation:

$E = 4.10 \times P^{0.67}$ (for process rates less than or equal to 30 tons per hour)

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.5 F.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from the silos shall be controlled by bagfilters. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. A monthly visual inspection of the system ductwork and material collection unit for leaks; and
   ii. An annual (for each 12-month period following the initial inspection) internal inspection of the bagfilter's structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork and bagfilters are not inspected and maintained.

d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection;
   iii. The results of any maintenance performed on the bagfilters; and
   iv. Any variance from manufacturer's recommendations, if any, and corrections made.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit the results of any maintenance performed on the bagfilter within 30 days of a written request by the DAQ.

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.5 F.1.c and F.1.d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.5 F.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping [15 NCAC 02Q .0508(f)]

c. To ensure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. If visible emissions from these sources are observed to be above normal, the Permittee shall either:
   i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. Demonstrate that the percent opacity from the emission points of the emission sources in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1.5 F.2.a above.

   The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required monthly observations are not conducted as required or if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made.

d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
   iii. The results of any corrective actions performed.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.5 F.2.c and F.2.d above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING – PM_{10}

a. Per 40 CFR 64 and 15A NCAC 02D .0614, the Permittee shall comply with the following compliance assurance monitoring (CAM) requirements.

Background

b. Emission Units:
   Diatomaceous earth silo **(ID No. 426-154)**

c. Applicable Regulation, Emission Limit, and Monitoring Requirements
   i. Regulation:
      15A NCAC 02D .0515
   ii. Emission limits:
      $E = 4.10 \times P^{0.67}$ (for process rates less than or equal to 30 tons per hour), or
      Where: E = allowable emission rate in pounds per hour
      P = process weight in tons per hour
   iii. Control Technology:
      Bagfilter **(ID No. 426-161)**

Monitoring Approach

d. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criteria are presented in the following table. The Permittee may use either indicator as appropriate. However, on any day in which one indicator is used, the other indicator may not also be utilized.

Measure	Indicator 1 – Visible Emissions	Indicator 2 – Differential Pressure Drop
I. Indicator		
Measuring approach	A visible emissions (VE) observation from the bagfilter **(ID No. 426-161)** will be conducted daily for visible emissions above normal.	A daily instantaneous differential pressure reading across the bagfilter **(ID No. 426-161).**
II. Indicator Range	An excursion is defined as the presence of above normal emissions. The Permittee shall take appropriate action to correct the above-normal emissions as soon as possible. The Permittee shall take corrective action such as the following: i. Take appropriate action to correct the above-normal emissions as soon as practicable and verify that the corrective action returned visible emissions to within normal; or ii. Demonstrate that opacity does not exceed 20 percent opacity standard in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes. An excursion will trigger corrective action to return emissions to normal as soon as possible and recordkeeping and reporting in accordance with Section 2.1.5 F.3.e below.	An excursion is defined as an instantaneous differential pressure reading outside the following indicator range: **Indicator range is To Be Determined** Excursion triggers corrective action and recordkeeping and reporting in accordance with Section 2.1.5 F.3.e below.
	The QIP threshold is excursions occurring on five days (consecutive or non-consecutive days) in a six-month reporting period.	
III. Performance Criteria		
Data Representativeness	Visible emissions shall be observed at the emissions point (bagfilter **(ID No. 426-161)** exhaust).	Pressure drop measured across the bagfilter **(ID No. 426-161).**
QA/QC Practices and Criteria	Method 9 observations are conducted by a certified Reference Method 9 observer.	Pressure gauge and transducer (if equipped with transducer) calibration shall be performed according to manufacturer recommendations (or standard industry practice if there are no manufacturer recommendations). Pressure taps checked for plugging during calibration.
Monitoring frequency	A VE observation shall be performed daily, when operating.	Pressure drop is measured continuously.
Data Collection Procedures	The VE observation is recorded by the observer.	Pressure drop is manually recorded daily.
Averaging Period	N/A	N/A

Recordkeeping and Reporting [15A NCAC 02Q .0508(f), 40 CFR 64.9]

e. The Permittee shall comply with the recordkeeping requirements of 40 CFR 64.9(b) and submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-

month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The reports shall comply with the reporting requirements of 40 CFR 64.9(a) and include, at a minimum, the following information, as applicable:

i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the Permittee shall include, in the next summary report, documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances.

2.1.5 GPhosphoric Acid Recirculation Water Cooling Tower Fans (ID Nos. ES461 and ES462), ep461 and ep462

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	Operating limitations	15A NCAC 02D .1111 (40 CFR Part 63, Subpart AA)

1. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart AA, Phosphoric Acid Manufacturing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart AA, "NESHAP from Phosphoric Acid Manufacturing Plants" including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.601]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.601 shall apply.

General Provisions [40 CFR 63.608]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA.
d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.608(b)]

Operating Limits [15A NCAC 02Q .0508(f)]

e. The Permittee shall not introduce into any evaporative cooling tower any liquid effluent from any absorber installed to control emissions from process equipment. [40 CFR 63.602(c)]

Monitoring/Recordkeeping [15A NCAC 02Q .0508 (f)]

f. The Permittee shall show compliance with the operating limit during inspections by the DAQ and shall certify to the DAQ annually that this requirement has been met. [40 CFR 63.607(b)(2)(i)] The Permittee shall be deemed in noncompliance if these requirements are not met.
g. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may

keep the records off site for the remaining 3 years. [40 CFR 63.607(b)(1) and (c)] The Permittee shall be deemed in noncompliance if these requirements are not met.

2.1.5 H HF Production Process

HF Loading and storage (ID No. GW01) with venturi scrubbers (ID Nos. HFVS-1 and HFVS-2) and packed bed scrubbers (ID Nos. HFPB-1 and HFPB-2), ep440 and ep441
HF Trains 1 and 2 (ID Nos. GW03-A and GW03-B) with venturi scrubbers (ID Nos. HFVS-1 and HFVS-2) and packed bed scrubbers (ID Nos. HFPB-1 and HFPB-2), ep440 and ep441, respectively
Additive storage silo (ID No. LS-1) with fabric filter (ID No. LSBF-1), ep426
Additive bin (ID No. LB-1) with fabric filter (ID No. LBF-1), ep427
Cooling tower (ID No. CT444), ep428

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10 \times P^{0.67}$ (for process rates ≤ 30 tons per hour) Where: E = allowable emission rate in pounds per hour P = rock throughput in tons per hour (**ID Nos. LS-1 and LB-1, only**)	15A NCAC 02D .0515
Visible Emissions	20 percent opacity (**ID Nos. LS-1 and LB-1, only**)	15A NCAC 02D .0521
Hazardous Air Pollutants	Less than 25 tons for combined HAPs per 12-month period Less than 10 tons for any single HAP per 12-month period.	15A NCAC 02Q .0317 (Avoidance of 15A NCAC 02D .1112)
Fluoride (excluding hydrogen fluoride)	Less than 3 tons per consecutive 12-month period	15A NCAC 02Q .0317 (Avoidance of 15A NCAC 02D .0530)
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from these sources (**ID Nos. LS-1 and LB-1**) shall not exceed an allowable emission rate as calculated by the following equation:

$E = 4.10 \times P^{0.67}$ (for process rates less than or equal to 30 tons per hour)

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.5 H.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from these emission sources these sources (**ID Nos. LS-1 and LB-1**) shall be controlled by fabric filters **(ID No. LSBF-1 and LBF-1)**, respectively. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. A monthly visual inspection of the system ductwork and material collection unit for leaks; and
   ii. An annual (for each 12-month period following the initial inspection) internal inspection of the bagfilter's structural integrity.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork and bagfilters are not inspected and maintained.

d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection;
   iii. The results of any maintenance performed on the bagfilters; and
   iv. Any variance from manufacturer's recommendations, if any, and corrections made.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit the results of any maintenance performed on the bagfilter within 30 days of a written request by the DAQ.
f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.5 H.1.c and H.1.d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources (**ID Nos. LS-1 and LB-1**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.5 H.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring [15 NCAC 02Q .0508(f)]

c. To ensure compliance, once a month the Permittee shall observe the emission points of this/these sources (**ID Nos. LS-1 and LB-1**) for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. The Permittee shall establish "normal" for these sources in the first 30 days following the effective date of beginning operation. If visible emissions from these sources are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1.5 H.2.a above.

   The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required monthly observations are not conducted as required; if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made; or if "normal" is not established for these sources in the first 30 days following the effective date of beginning operation.

Recordkeeping [15A NCAC 02Q .0508(f)]

d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. the date and time of each recorded action;
   ii. the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
   iii. the results of any corrective actions performed.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1.5 H.2.c and H.2.d above postmarked on or before January 30 of each calendar year for the preceding six-month period

between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS
for 15A NCAC 02D .1112: 112(G) CASE BY CASE MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

a. In order to avoid applicability of 15A NCAC 02D .1112, "112(g) Case-by-Case Maximum Achievable Control Technology," HAP emissions from these sources **(ID Nos. GW01, GW03-A, and GW03-B)** shall be less than the following limitations:
   i. 25 tons per consecutive 12-month period of total, combined HAP; and,
   ii. 10 tons per consecutive 12-month period of any individual HAP.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.5 H.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1112.

c. Under the provisions of North Carolina General Statute 143-215.108 and in accordance with 15A NCAC 02D .0605, the Permittee shall conduct source testing to quantify the emissions of hydrogen fluoride, fluoride (excluding hydrogen fluoride), and hydrogen chloride from HF Train 1 or 2 **(ID Nos. GW03-A and GWO3-B).** Results obtained from the tested train shall be considered representative of emissions from the other train. Testing shall be conducted as follows:
   i. The Permittee shall perform such testing in accordance with 15A NCAC 02D .2600.
   ii. At least 45 days prior to performing any required emissions testing, the Permittee must submit a testing protocol to the Regional Supervisor, DAQ, for review and approval. All testing protocols must be approved by the DAQ prior to performing such tests.
   iii. To afford the Regional Supervisor, DAQ, the opportunity to have an observer present, the Permittee shall provide the Regional Office, in writing, at least 15 days notice of any required performance test(s).
   iv. The emission tests shall be conducted no later than 180 days after the initial startup of the affected sources, unless an alternate date is approved in advance by DAQ. During the source test, the Permittee shall determine emission rates of hydrogen fluoride, fluoride (excluding hydrogen fluoride), and hydrogen chloride in accordance with a DAQ-approved test method.
   v. The Permittee shall be responsible for ensuring, within the limits of practicality, that the equipment or process being tested is operated at or near its maximum normal production rate or at a lesser rate if specified by the Director or his delegate.
   vi. The test report shall be submitted to the Regional Supervisor, DAQ, not later than 30 days after sample collection in accordance with 15A NCAC 02D .2602(h). The Permittee may request an extension to submit the final test report. The Regional Supervisor, DAQ, shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the Permittee.

   If the source test is not performed in accordance with Section 2.1.5 H.3.c above or if the results of this test are above the limit given in Section 2.1.5 H.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1112.

Monitoring/Recordkeeping [15A NCAC 02Q .0508 (f)]

d. Emissions from these sources **(ID Nos. GW01, GW03-A, and GW03-B)** shall be controlled with venturi scrubbers **(ID Nos. HFVS-1 and HFVS-2)** and packed bed scrubbers **(ID Nos. HFPB-1 and HFPB-2)**. The Permittee shall perform inspections and maintenance for the scrubbers commensurate with the site's standard operating procedures established for similar scrubbers operating at the site. At a minimum, the Permittee shall conduct a visual inspection of internal scrubber components recommended by the manufacturer on an annual basis. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1112 if these requirements are not met.

e. The results of inspection and maintenance specified in Section 2.1.5 H.3.d above shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection;
   iii. The results of any maintenance performed on the control devices; and
   iv. Any variance from manufacturer's recommendations, if any, and corrections made.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1112 if these records are not maintained.

f. Each calendar month, the Permittee shall calculate HAP emissions from these emission sources for the previous month and previous 12-month period and record calculated emissions in a logbook (written or electronic format). If the

calculations are not conducted or recorded or if the HAP emissions exceed the emission limits in Section 2.1.5 H.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1112.

Reporting [15A NCAC 02Q .0508(f)]

g. The Permittee shall submit the results of any maintenance performed on any control device within 30 days of a written request by the DAQ.
h. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.5 H.3.d through H.3.f above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. The report shall summarize emissions of hazardous air pollutants containing the following:
   i. greatest quantity in pounds of an individual hazardous air pollutant emitted from these sources **(ID Nos. GW01, GW03-A, and GW03-B)**:
      (A) for each month during the semiannual period, and
      (B) for each 12-month period ending on each month during the semiannual period using a 12-month rolling total.
   ii. pounds of all hazardous air pollutants emitted from these sources**(ID Nos. GW01, GW03-A, and GW03-B)**:
      (A) for each month during the semiannual period, and
      (B) for each 12-month period ending on each month during the semiannual period using a 12-month rolling total.

   All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS
for 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530(g) for major sources and major modifications, fluoride emissions from these emission sources **(ID Nos. GW01, GW03-A, and GW03-B)** shall be less 3 tons per consecutive 12-month period.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.5 H.4.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Compliance with the monitoring and recordkeeping requirements in Section 2.1.5 H.3.d and H.3.e above shall be sufficient to demonstrate compliance with 15A NCAC 02D .0530. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the monitoring and recordkeeping requirements in Section 2.1.5 H.3.d and H.3.e are not met.
d. Each calendar month, the Permittee shall calculate fluoride emissions from these emission sources **(ID Nos. GW01, GW03-A, and GW03-B)** for the previous month and previous 12-month period. Calculations and the total amount of fluoride emissions shall be recorded monthly in a logbook (written or electronic format). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these records are not kept or the fluoride emissions exceed the limit in Section 2.1.5 H.4.a above.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.5 H.4.c and H.4.d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the monthly fluoride emissions for the previous 17 months. The emissions must be calculated for each of the 12-month periods over the previous 17 months. All instances of deviations from the requirements of this permit must be clearly identified.

2.1.5 I Phosphate rock storage silo (ID No. 429-157) and four transfer points (ID Nos. 429-158, 429-009, 429-181, 429-183) controlled by a bagfilter (ID No. 429-164), ep435

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Particulate matter PM_{10}	$E = 55.0 \times P^{0.11} - 40$ (for process rates > 30 tons per hour) Where: E = allowable emission rate in pounds per hour P = rock throughput in tons per hour	15A NCAC 02D .0515
	Compliance Assurance Monitoring (CAM) Plan	15A NCAC 02D .0614
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation:

$E = 55.0 \times P^{0.11} - 40$ (for process rates greater than 30 tons per hour)

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given above in Section 2.1.5 I.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from these sources shall be controlled by enclosures and control devices where specified. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. A monthly visual inspection of the system enclosures and control unit for leaks; and
   ii. An annual (for each 12-month period following the initial inspection) internal inspection of the enclosure's and control device structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the enclosure is not inspected and maintained.

d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection;
   iii. The results of any maintenance performed on the enclosures; and
   iv. Any variance from manufacturer's recommendations, if any, and corrections made.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit the results of any maintenance performed on the enclosures within 30 days of a written request by the DAQ.

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.5 I.1.c and I.1.d above postmarked on or before January 30 of each calendar year for the preceding six-month period between

July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.5 I.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. To ensure compliance, once a month the Permittee shall observe the emission points of this source for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. If visible emissions from this source are observed to be above normal, the Permittee shall either:
   i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1.5 I.2.a above.

   The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521 if the required monthly observations are not conducted as required or if the above-normal emissions are not corrected within the monitoring period or the percent opacity demonstration cannot be made.

d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
   iii. The results of any corrective actions performed.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.5 I.2.c and I.2.d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 02D .0614: COMPLIANCE ASSURANCE MONITORING – PM_{10}

a. Per 40 CFR 64 and 15A NCAC 02D .0614, the Permittee shall comply with the following compliance assurance monitoring (CAM) requirements.

Background

b. Emission Units:
   i. Phosphate rock storage silo **(ID No. 429-157)**
   ii. Four transfer points **(ID Nos. 429-158, 429-009, 429-181, 429-183)**

c. Applicable Regulation, Emission Limit, and Monitoring Requirements
   i. Regulation:
   15A NCAC 02D .0515
   ii. Emission limits:
   $E = 55.0 \times P^{0.11} - 40$ (for process rates greater than 30 tons per hour)
   Where: E = allowable emission rate in pounds per hour
   P = rock throughput in tons per hour

iii. Control Technology:
Bagfilter **(ID No. 429-164)**

Monitoring Approach

d. The key elements of the monitoring approach for particulate matter, including parameters to be monitored, parameter ranges and performance criteria are presented in the following table. The Permittee may use either indicator as appropriate. However, on any day in which one indicator is used, the other indicator may not also be utilized.

Measure	Indicator 1 – Visible Emissions	Indicator 2 – Differential Pressure Drop
I. Indicator Measuring approach	A visible emissions (VE) observation from the bagfilter **(ID No. 429-164)** will be conducted daily for visible emissions above normal.	A daily instantaneous differential pressure reading across the bagfilter **(ID No. 429-164).**
II. Indicator Range	An excursion is defined as the presence of above normal emissions. The Permittee shall take appropriate action to correct the above-normal emissions as soon as possible. The Permittee shall take corrective action such as the following: i. Take appropriate action to correct the above-normal emissions as soon as practicable and verify that the corrective action returned visible emissions to within normal; or ii. Demonstrate that opacity does not exceed 20 percent opacity standard in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes. An excursion will trigger corrective action to return emissions to normal as soon as possible and recordkeeping and reporting in accordance with Section 2.1.5 I.3.e below.	An excursion is defined as an instantaneous differential pressure reading outside the following indicator range: Pressure drop: 1.0 to 8.0 inches of water Excursion triggers corrective action and recordkeeping and reporting in accordance with Section 2.1.5 I.3.e below.
	The QIP threshold is excursions occurring on five days (consecutive or non-consecutive days) in a six-month reporting period.	
III. Performance Criteria Data Representativeness	Visible emissions shall be observed at the emissions point (bagfilter **(ID No. 429-164)** exhaust).	Pressure drop measured across the bagfilter **(ID No. 429-164)**
QA/QC Practices and Criteria	Method 9 observations are conducted by a certified Reference Method 9 observer.	Pressure gauge and transducer (if equipped with transducer) calibration shall be performed according to manufacturer recommendations (or standard industry practice if there are no manufacturer recommendations). Pressure taps checked for plugging during calibration.
Monitoring frequency	A VE observation shall be performed daily, when operating.	Pressure drop is measured continuously.
Data Collection Procedures	The VE observation is recorded by the observer.	Pressure drop is manually recorded daily.
Averaging Period	N/A	N/A

Recordkeeping and Reporting [15A NCAC 02Q .0508(f), 40 CFR 64.9]

e. The Permittee shall comply with the recordkeeping requirements of 40 CFR 64.9(b) and submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The reports shall comply with the reporting requirements of 40 CFR 64.9(a) and include, at a minimum, the following information, as applicable:
   i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
   ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
   iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the Permittee shall include, in the next summary report, documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances.

2.1.5 J Process Vessels Nos. 1 and 2 Product Tank (ID Nos. 426-208, 426-232, and 426-200), ep493 Filter press No. 1 and filter press No. 2 building vent No. 1 (ID No. 426-220), ep495 Filter press No. 1 and filter press No. 2 building vent No. 2 (ID No. 426-226), ep497

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

2.1.6 Purified Acid Production Area

2.1.6 A Purified Acid Plant No. 1, Trains 1 and 2

Three scrub acid storage tanks (ID Nos. T24, T224, and T324) discharged through a seal pot (ID No. T346) controlled via a packed bed scrubber (ID No. S324) and gas chiller system (ID No. GC-1), ep501

Four extraction columns under nitrogen (ID Nos. C10, C20, C210, and C220), ten tanks under nitrogen (ID Nos. T7, T12, T13, T212, T213, T1, T201, T40, T240, and T57), four tanks with seal pots under nitrogen (ID Nos. T54, T44, T244, and T34), five seal pots under nitrogen (ID Nos. T8, T15, T215, T315, and T58), Six separators under nitrogen (ID Nos. S53, S43, S243, S253, S33, and S5), solvent purification unit under nitrogen (ID No. S4), five strippers under nitrogen (ID Nos. S42, S242, S32, S52, and S54), and scrubber under nitrogen (ID No. S324) controlled by a gas chiller system (ID No. GC-1), ep501

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Methyl Isobutyl Ketone (MIBK)	Twenty parts per million in each product acid stream (thirty day average) Thirty parts per million in each raffinate stream (thirty day average) Chiller gas steam exit temperature less than or equal to 50 degrees Fahrenheit Follow procedures for LDAR under 40 CFR Part 63, Subpart H	15A NCAC 02D .1111 (40 CFR Part 63, Subpart AA)

1. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart AA, Phosphoric Acid Manufacturing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart AA, "NESHAP from Phosphoric Acid Manufacturing Plants" including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.601]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.601 shall apply.

General Provisions [40 CFR 63.608]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA.

d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.608(b)]

e. The Permittee shall develop, and submit to the DAQ upon request, a site-specific monitoring plan for each continuous monitoring system (CMS) used to demonstrate compliance with any applicable emission limit or work practice standard. The plan must include the following information:
   i. Location of the CMS sampling probe or other interface.

ii. Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems.
iii. Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).
iv. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1)(ii), (c)(3), (c)(4)(ii), and Table 4 to 40 CFR Part 63, Subpart AA.
v. Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d)(1) and (2) and Table 5 to 40 CFR Part 63, Subpart AA.
vi. Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i).
vii. A schedule for conducting initial and subsequent performance evaluations.
viii. The program of corrective action required under 40 CFR 63.8(d)(2).

The Permittee shall maintain the site-specific monitoring plan on site for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the DAQ. If the site-specific monitoring plan is revised, the Permittee shall maintain previous (*i.e.*, superseded) versions of the plan on site to be made available for inspection, upon request, by the DAQ, for a period of 5 years after each revision to the plan. [40 CFR 63.608(c)]

Operating Limits [15A NCAC 02Q .0508(f)]

f. Operation of the purified phosphoric acid process line **(ep501)** shall be limited to not exceed any of the following:
i. A 30-day average of daily concentration measurements of methyl isobutyl ketone in excess of 20 ppm for each product acid stream.
ii. A 30-day average of daily concentration measurements of methyl isobutyl ketone in excess of 30 ppm for each raffinate stream.
iii. A daily average chiller stack exit gas stream temperature less than or equal to 50 degrees F.

[40 CFR 63.602(b)]

Testing [15A NCAC 02Q .0508(f)]

g. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.6 A.1.f above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f), 40 CFR 63.605(c)]

h. The Permittee shall comply with the following requirements:
i. Install, calibrate, maintain, and operate a CMS according to your site-specific monitoring plan specified in Section 2.1.6 A.1.e above. The CMS must continuously measure and permanently record the stack gas exit temperature for each chiller stack.
ii. Measure and record the concentration of methyl isobutyl ketone in each product acid stream and each raffinate stream once each day. If the daily average of the chiller stack temperature or the 30-day average concentration of methyl isobutyl ketone exceeds the limits in Section 2.1.6 A.1.f above, an exceedance will have occurred. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the CMS is not maintained, calibrated, operated, and the results recorded.

i. The Permittee shall conduct a performance evaluation, as specified in 40 CFR 63.8(e), in accordance with the site-specific monitoring plan required in Section 2.1.6 A.1.e above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the performance evaluation is not conducted as required. [40 CFR 63.606(m)]

j. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years. [40 CFR 63.607(b)(1) and (c)] The Permittee shall be deemed in noncompliance if these requirements are not met.

Leak Detection and Repair Requirements [40 CFR 63.602(b)]

k. The Permittee shall comply with the provisions of 40 CFR Part 63, Subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks). Affected equipment includes the following:
i. pumps in light liquid service (40 CFR 63.163),
ii. compressors (40 CFR 63.164),
iii. pressure relief devices in gas/vapor service (40 CFR 63.165),
iv. sampling connection systems (40 CFR 63.166),

v. open-ended valves or lines (40 CFR 63.167),
vi. valves in gas/vapor service and light liquid service (40 CFR 63.168),
vii. pumps, valves, connectors, and agitators in heavy liquid service, instrumentation systems, and pressure relief devices in liquid service (40 CFR 63.169),
viii. surge control vessels and bottoms receivers (40 CFR 63.170),
ix. delay of repair equipment (40 CFR 63.171),
x. closed-vent systems and control devices (40 CFR 63.172),
xi. agitators in gas/vapor service and in light liquid service (40 CFR 63.173),
xii. connectors in gas/vapor service and in light liquid service (40 CFR 63.174),

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if a leak detection and repair program that is consistent with the requirements of this Subpart is not implemented, including required recordkeeping requirements pursuant to 40 CFR 63.181.

Reporting [15A NCAC 02Q .0508(f)]

l. Summary report. If the total duration of control system exceedances for the reporting period is less than 1 percent of the total operating time for the reporting period or if CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, the Permittee shall submit a summary report containing the information specified in 40 CFR 63.10(e)(3)(iv) rather than the full excess emissions report. The summary report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. [40 CFR 63.607(b)(5), 40 CFR 63.10(e)(3)(vii)]

m. Excess emissions report. If the total duration of control system operating parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period or if the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Permittee shall submit both a Summary Report and an excess emissions report for any exceedance of an operating parameter limit. The report shall contain the information specified in 40 CFR 63.10 and 40 CFR 63.607(b)(4). The report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. If exceedances are reported, the Permittee shall report quarterly until a request to reduce reporting frequency is approved as described in 40 CFR 63.10. [40 CFR 63.607(b)(3) and (5), 40 CFR 63.10(e)(3)(viii)]

n. EPA Electronic Reporting Tool. Within 60 days after the date of completing each performance test (defined in 40 CFR 63.2) as required by 40 CFR Part 63, Subpart AA, the Permittee shall submit the results of the performance tests, including any associated fuel analyses, to the DAQ pursuant to 40 CFR 63.10(d)(2) and to the EPA via the procedures in 40 CFR 63.607(e)(1) or (2).

o. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the reporting requirements in Section 2.1 6 A.1.l through A.l.1.n above are not met.

2.1.6 B Purified Acid Plant No. 1, Trains 1 and 2

Three acid defluorination columns with concentrators (ID Nos. S88 and T70, S288 and T100, and S118 and T270) controlled by three wet spray towers with demister pads (ID Nos. S92, S292, and S122, respectively), ep502

The following table provides a summary of limits and standards for the emission sources described above:

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

2.1.6 C Purified Acid Plant No. 1, Trains 1 and 2

- **Direct Cooling Tower (ID No. E180 (CT-1)), ep510/511**
- **Indirect Cooling Tower (ID No. E181 (CT-2)), ep512/513**

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	Operating limitations	15A NCAC 02D .1111 (40 CFR Part 63, Subpart AA)

1. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart AA, Phosphoric Acid Manufacturing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart AA, "NESHAP from Phosphoric Acid Manufacturing Plants" including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.601]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.601 shall apply.

General Provisions [40 CFR 63.608]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA.

d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.608(b)]

Operating Limits [15A NCAC 02Q .0508(f)]

e. The Permittee shall not introduce into any evaporative cooling tower any liquid effluent from any absorber installed to control emissions from process equipment. [40 CFR 63.602(c)]

Monitoring/Recordkeeping [15A NCAC 02Q .0508 (f)]

f. The Permittee shall show compliance with the operating limit during inspections by the DAQ and shall certify to the DAQ annually that this requirement has been met. [40 CFR 63.607(b)(2)(i)]] The Permittee shall be deemed in noncompliance if these requirements are not met.

g. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may

keep the records off site for the remaining 3 years. [40 CFR 63.607(b)(1) and (c)] The Permittee shall be deemed in noncompliance if these requirements are not met.

2.1.6 D Purified Acid Plant No. 2, Train 3

Two scrub acid storage tanks (ID Nos. T1024 and T1324) discharged through a seal pot (ID No. T1346) controlled via a packed bed scrubber (ID No. S1324) and gas chiller system (ID No. GC-2), ep503

Two extraction columns under nitrogen (ID Nos. C1010 and C1020), seven tanks under nitrogen (ID Nos. T1007, T1012, T1013, T1212, T1001, T1040, and T1057), three tanks with seal pots under nitrogen (ID Nos. T1054, T1044, and T1034), five seal pots under nitrogen (ID Nos. T1008, T1015, T1215, T1315, and T1058), five separators under nitrogen (ID Nos. S1043, S1053, S1253, S1033, and S1005), solvent purification unit under nitrogen (ID No. S1004), four strippers under nitrogen (ID Nos. S1042, S1032, S5102, and S1054), and one scrubber under nitrogen (ID No. S1324) controlled by a gas chiller system (ID No. GC-2), ep503

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Volatile Organic Compounds	Chiller gas steam exit temperature less than or equal to 50 degrees Fahrenheit	15A NCAC 02D.0530
Total Fluorides	0.0152 pounds per hour	15A NCAC 02D .0530
Methyl Isobutyl Ketone (MIBK)	Twenty parts per million in each product acid stream (thirty day average) Thirty parts per million in each raffinate stream (thirty day average) Chiller gas steam exit temperature less than or equal to 50 degrees Fahrenheit Follow procedures for LDAR under 40 CFR Part 63, Subpart H	15A NCAC 02D .1111 (40 CFR Part 63, Subpart AA)

1. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD), BACT

a. For Purified Acid Plant No. 2, the following table shall describe the emission standards:

Emission Source	Pollutant	Control Method	BACT Emission Limit
Purified Acid Plant No. 2, Chiller Stack (ep503)	VOC	Chiller	Maintain a daily average chiller stack exit gas stream temperature less than or equal to 50 °F
Purified Acid Plant No. 2, Chiller Stack (ep503)	Total fluorides	Chiller	1.52×10^{-2} pounds per hour

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.6 D.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

c. The Permittee shall conduct a performance test once per every permit term to demonstrate compliance with the applicable emission standard for the purified phosphoric acid plant chiller stack. Details of the emissions testing and requirements can be found in General Condition JJ. The chiller stack shall be tested at a rate demonstrable by

production records to be equal to or greater than the normal production rate of the source. The normal production rate (hourly) shall be calculated by dividing the total annual production for the plant by the number of hours that plant was operated during that year. The facility shall establish the normal production rate using the production records over the last production year. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

d. The Permittee shall install, calibrate, maintain, and operate a monitoring system that continuously measures and permanently records the stack gas exit temperature for each chiller stack.
e. The Permittee shall measure and record the concentration of methyl isobutyl ketone in each product acid stream and each raffinate stream once daily. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these monitoring systems are not maintained, calibrated, operated, and the results recorded. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these monitoring systems indicate any exceedances of the standards given in Section 2.1.6 D.1.a above.

Reporting [15A NCAC 02Q .0508(f)]

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.6 D.1.d and D.1.e above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart AA, Phosphoric Acid Manufacturing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart AA, "NESHAP from Phosphoric Acid Manufacturing Plants" including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.601]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.601 shall apply.

General Provisions [40 CFR 63.608]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA.
d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.608(b)]
e. The Permittee shall develop, and submit to the DAQ upon request, a site-specific monitoring plan for each continuous monitoring system (CMS) used to demonstrate compliance with any applicable emission limit or work practice standard. The plan must include the following information:
    i. Location of the CMS sampling probe or other interface.
    ii. Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems.
    iii. Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).
    iv. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1)(ii), (c)(3), (c)(4)(ii), and Table 4 to 40 CFR Part 63, Subpart AA.
    v. Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d)(1) and (2) and Table 5 to 40 CFR Part 63, Subpart AA.
    vi. Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i).
    vii. A schedule for conducting initial and subsequent performance evaluations.
    viii. The program of corrective action required under 40 CFR 63.8(d)(2).

The Permittee shall maintain the site-specific monitoring plan on site for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the DAQ. If the site-specific monitoring plan is revised, the Permittee shall maintain previous (*i.e.*, superseded) versions of the plan on site to be made available for inspection, upon request, by the DAQ, for a period of 5 years after each revision to the plan. [40 CFR 63.608(c)]

Operating Limits [15A NCAC 02Q .0508(f)]

f. Operation of the purified phosphoric acid process line **(ep503)** shall be limited to not exceed any of the following:
   i. A 30-day average of daily concentration measurements of methyl isobutyl ketone in excess of 20 ppm for each product acid stream.
   ii. A 30-day average of daily concentration measurements of methyl isobutyl ketone in excess of 30 ppm for each raffinate stream.
   iii. A daily average chiller stack exit gas stream temperature less than or equal to 50 degrees F.

   [40 CFR 63.602(b)]

Testing [15A NCAC 02Q .0508(f)]

g. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.6 D.2.f above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f), 40 CFR 63.605(c)]

h. The Permittee shall comply with the following requirements:
   i. Install, calibrate, maintain, and operate a CMS according to your site-specific monitoring plan specified in Section 2.1.6 D.2.e above. The CMS must continuously measure and permanently record the stack gas exit temperature for each chiller stack.
   ii. Measure and record the concentration of methyl isobutyl ketone in each product acid stream and each raffinate stream once each day.

   If the daily average of the chiller stack temperature or the 30-day average concentration of methyl isobutyl ketone exceeds the limits in Section 2.1.6 D.2.f above, an exceedance will have occurred. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the CMS is not maintained, calibrated, operated, and the results recorded.

i. The Permittee shall conduct a performance evaluation, as specified in 40 CFR 63.8(e), in accordance with the site-specific monitoring plan required in Section 2.1.6 D.2.e above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the performance evaluation is not conducted as required. [40 CFR 63.606(m)]

j. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years. [40 CFR 63.607(b)(1) and (c)] The Permittee shall be deemed in noncompliance if these requirements are not met.

Leak Detection and Repair Requirements [40 CFR 63.602(b)]

k. The Permittee shall comply with the provisions of 40 CFR Part 63, Subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks). Affected equipment includes the following:
   i. pumps in light liquid service (40 CFR 63.163),
   ii. compressors (40 CFR 63.164),
   iii. pressure relief devices in gas/vapor service (40 CFR 63.165),
   iv. sampling connection systems (40 CFR 63.166),
   v. open-ended valves or lines (40 CFR 63.167),
   vi. valves in gas/vapor service and light liquid service (40 CFR 63.168),
   vii. pumps, valves, connectors, and agitators in heavy liquid service, instrumentation systems, and pressure relief devices in liquid service (40 CFR 63.169),
   viii. surge control vessels and bottoms receivers (40 CFR 63.170),
   ix. delay of repair equipment (40 CFR 63.171),
   x. closed-vent systems and control devices (40 CFR 63.172),
   xi. agitators in gas/vapor service and in light liquid service (40 CFR 63.173),
   xii. connectors in gas/vapor service and in light liquid service (40 CFR 63.174),

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if a leak detection and repair program that is consistent with the requirements of this Subpart is not implemented, including required recordkeeping requirements pursuant to 40 CFR 63.181.

Reporting [15A NCAC 02Q .0508(f)]

l. Summary report. If the total duration of control system exceedances for the reporting period is less than 1 percent of the total operating time for the reporting period or if CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, the Permittee shall submit a summary report containing the information specified in 40 CFR 63.10(e)(3)(iv) rather than the full excess emissions report. The summary report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. [40 CFR 63.607(b)(5), 40 CFR 63.10(e)(3)(vii)]

m. Excess emissions report. If the total duration of control system operating parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period or if the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Permittee shall submit both a Summary Report and an excess emissions report for any exceedance of an operating parameter limit. The report shall contain the information specified in 40 CFR 63.10 and 40 CFR 63.607(b)(4). The report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. If exceedances are reported, the Permittee shall report quarterly until a request to reduce reporting frequency is approved as described in 40 CFR 63.10. [40 CFR 63.607(b)(3) and (5), 40 CFR 63.10(e)(3)(viii)]

n. EPA Electronic Reporting Tool. Within 60 days after the date of completing each performance test (defined in 40 CFR 63.2) as required by 40 CFR Part 63, Subpart AA, the Permittee shall submit the results of the performance tests, including any associated fuel analyses, to the DAQ pursuant to 40 CFR 63.10(d)(2) and to the EPA via the procedures in 40 CFR 63.607(e)(1) or (2).

o. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the reporting requirements in Section 2.1.6 D.2.l through D.2.n above are not met.

2.1.6 E Purified Acid Plant No. 2, Train 3

Two acid defluorination column with concentrators (ID Nos. S1088 and T1070 and S1118 and T1100), each controlled with a wet spray tower with a demister pad (ID Nos. S1092 and S1122, respectively), ep504

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Total Fluorides	0.0688 pounds per hour	15A NCAC 02D .0530
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

1. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD) BACT

a. Each of the two acid defluorination column/concentrators shall be controlled with a scrubber and total fluoride emissions from all units shall not exceed 0.0688 pounds per hour.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.6 E.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

c. The Permittee shall conduct a performance test once per every permit term to demonstrate compliance with the applicable emission standard for Emission Point 504. Details of the emissions testing and requirements can be found in General Condition JJ. The scrubber stack shall be tested at a rate demonstrable by production records to be equal to or greater than the normal production rate of the source. The normal production rate (hourly) shall be calculated by dividing the total annual production for the plant by the number of hours that plant was operated during that year. The facility shall establish the normal production rate using the production records over the last production year. If the results of this test are above the limit given in Section 2.1.6 E.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

d. The Permittee shall install, calibrate, maintain, and operate a monitoring system that continuously measures and permanently records the pond liquid injection rate for each wet spray tower scrubber. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these monitoring systems are not maintained, calibrated, operated, and the results recorded.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.6 E.1.d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2.1.6 F Purified Acid Plant No. 2, Train 3
Direct Cooling Tower No. 1 (ID No. E1180), ep514/515

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Total fluorides	0.072 pounds per hour	15A NCAC 02D .0530
Particulate matter	0.11 pounds per hour	15A NCAC 02D .0530
Hazardous air pollutants	Operating limitations	15A NCAC 02D .1111 (40 CFR Part 63, Subpart AA)

1. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD) BACT

a. For the concentrators, the following table shall describe the emission standards:

Emission Source	Pollutant	Control Method	BACT Emission Limit
PAP No. 2 Cooling Tower No. 1	PM_{10}	Drift Elimination System	0.11 pounds per hour
PAP No. 2 Cooling Tower No. 1	Total fluorides	Drift Elimination System	0.072 pounds per hour

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.6 F.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is required to demonstrate compliance with this standard.

2. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart AA, Phosphoric Acid Manufacturing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart AA, "NESHAP from Phosphoric Acid Manufacturing Plants" including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.601]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.601 shall apply.

General Provisions [40 CFR 63.608]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA.

d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.608(b)]

Operating Limits [15A NCAC 02Q .0508(f)]

e. The Permittee shall not introduce into any evaporative cooling tower any liquid effluent from any absorber installed to control emissions from process equipment. [40 CFR 63.602(c)]

Monitoring/Recordkeeping [15A NCAC 02Q .0508 (f)]

f. The Permittee shall show compliance with the operating limit during inspections by the DAQ and shall certify to the DAQ annually that this requirement has been met. [40 CFR 63.607(b)(2)(i)]] The Permittee shall be deemed in noncompliance if these requirements are not met.

g. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years. [40 CFR 63.607(b)(1) and (c)] The Permittee shall be deemed in noncompliance if these requirements are not met.

2.1.6 GPurified Acid Plant No. 2, Train 3
Indirect Cooling Tower No. 3 (ID No. E1181), ep516/517

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
PM_{10}	0.072 pounds per hour	15A NCAC 02D .0530
Hazardous Air Pollutants	Operating limitations	15 A NCAC 02D .1111 (40 CFR Part 63, Subpart AA)

1. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD) BACT

a. For the PAP Indirect Cooling Tower, the following table shall describe the emission standards:

Emission Source	Pollutant	Control Method	BACT Emission Limit
PAP No. 2 Cooling Tower No. 3	PM_{10}	Drift Elimination System	0.072 pounds per hour

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.6 G.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is required to demonstrate compliance with this standard.

2. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart AA, Phosphoric Acid Manufacturing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart AA, "NESHAP from Phosphoric Acid Manufacturing Plants" including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.601]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.601 shall apply.

General Provisions [40 CFR 63.608]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA.

d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of

operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.608(b)]

Operating Limits [15A NCAC 02Q .0508(f)]

e. The Permittee shall not introduce into any evaporative cooling tower any liquid effluent from any absorber installed to control emissions from process equipment. [40 CFR 63.602(c)]

Monitoring/Recordkeeping [15A NCAC 02Q .0508 (f)]

f. The Permittee shall show compliance with the operating limit during inspections by the DAQ and shall certify to the DAQ annually that this requirement has been met. [40 CFR 63.607(b)(2)(i)]] The Permittee shall be deemed in noncompliance if these requirements are not met.

g. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years. [40 CFR 63.607(b)(1) and (c)] The Permittee shall be deemed in noncompliance if these requirements are not met.

2.1.6H Purified Acid Plant No. 2 Train No. 4

Two scrub acid storage tanks (ID Nos. T1524 and T1224) discharged through a seal pot (ID No. T1546) controlled via a packed bed scrubber (ID No. S1324) and gas chiller system (ID No. GC-2), ep503

Two extraction columns under nitrogen (ID Nos. C1210 and C1220), five tanks under nitrogen (ID Nos. T1201, T1207, T1213, T1240, and T1257), one tank with seal pots under nitrogen (ID No. T1244), five emergency vent pots (ID Nos. T1415, T1515, T1208, T1258, and T1546), two separators under nitrogen (ID Nos. S1243 and S1205), solvent purification unit under nitrogen (ID No. S1204), and one stripper under nitrogen (ID No. S124) controlled by a gas chiller system (ID No. GC-2), ep503

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Volatile Organic Compounds	Chiller gas steam exit temperature less than or equal to 50 degrees Fahrenheit	15A NCAC 02D.0530
Total Fluorides	0.0152 pounds per hour	15A NCAC 02D .0530
Methyl Isobutyl Ketone (MIBK)	twenty parts per million in each product acid stream (thirty day average) thirty parts per million in each raffinate stream (thirty day average) chiller gas steam exit temperature less than or equal to 50 degrees Fahrenheit Follow procedures for LDAR under 40 CFR Part 63, Subpart H	15A NCAC 02D .1111 (40 CFR Part 63, Subpart AA)

1. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD), BACT

a. For Purified Acid Plant No. 2, Train No. 4 the following table shall describe the emission standards:

Emission Source	Pollutant	Control Method	BACT Emission Limit
Purified Acid Plant (PAP) No. 2 Train No. 4 Chiller Stack (ep503)	VOC	Chiller	Maintain a daily average chiller stack exit gas stream temperature less than or equal to 50 ^{o}F
PAP No. 2 No. 2 Train No. 4 Chiller Stack (ep503)	Total fluorides	Chiller	1.52×10^{-2} pounds per hour

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.6 H.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

c. The Permittee shall conduct a performance test once per every permit term to demonstrate compliance with the applicable emission standard for the purified phosphoric acid plant chiller stack. Details of the emissions testing and requirements can be found in General Condition JJ. The chiller stack shall be tested at a rate demonstrable by production records to be equal to or greater than the normal production rate of the source. The normal production rate (hourly) shall be calculated by dividing the total annual production for the plant by the number of hours that plant was operated during that year. The facility shall establish the normal production rate using the production records over the last production year. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

d. The Permittee shall install, calibrate, maintain, and operate a monitoring system that continuously measures and permanently records the stack gas exit temperature for each chiller stack.

e. The Permittee shall measure and record the concentration of methyl isobutyl ketone in each product acid stream and each raffinate stream once daily. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these monitoring systems are not maintained, calibrated, operated, and the results recorded. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these monitoring systems any exceedances of the standards given in Section 2.1.6 H.1.a above.

Reporting [15A NCAC 02Q .0508(f)]

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.6 H.1.d and H.1.e above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart AA, Phosphoric Acid Manufacturing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart AA, "NESHAP from Phosphoric Acid Manufacturing Plants" including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.601]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.601 shall apply.

General Provisions [40 CFR 63.608]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA.

d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.608(b)]

e. The Permittee shall develop, and submit to the DAQ upon request, a site-specific monitoring plan for each continuous monitoring system (CMS) used to demonstrate compliance with any applicable emission limit or work practice standard. The plan must include the following information:
   i. Location of the CMS sampling probe or other interface.
   ii. Performance and equipment specifications for the sample interface, the pollutant concentration or parametric signal analyzer, and the data collection and reduction systems.
   iii. Performance evaluation procedures and acceptance criteria (*e.g.*, calibrations).
   iv. Ongoing operation and maintenance procedures in accordance with the general requirements of 40 CFR 63.8(c)(1)(ii), (c)(3), (c)(4)(ii), and Table 4 to 40 CFR Part 63, Subpart AA.
   v. Ongoing data quality assurance procedures in accordance with the general requirements of 40 CFR 63.8(d)(1) and (2) and Table 5 to 40 CFR Part 63, Subpart AA.
   vi. Ongoing recordkeeping and reporting procedures in accordance with the general requirements of 40 CFR 63.10(c), (e)(1), and (e)(2)(i).
   vii. A schedule for conducting initial and subsequent performance evaluations.
   viii. The program of corrective action required under 40 CFR 63.8(d)(2).

   The Permittee shall maintain the site-specific monitoring plan on site for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the DAQ. If the site-specific monitoring plan is revised, the Permittee shall maintain previous (*i.e.*, superseded) versions of the plan on site to be made available for inspection, upon request, by the DAQ, for a period of 5 years after each revision to the plan. [40 CFR 63.608(c)]

Operating Limits [15A NCAC 02Q .0508(f)]

f. Operation of the purified phosphoric acid process line **(ep503)** shall be limited to not exceed any of the following:
   i. A 30-day average of daily concentration measurements of methyl isobutyl ketone in excess of 20 ppm for each product acid stream.
   ii. A 30-day average of daily concentration measurements of methyl isobutyl ketone in excess of 30 ppm for each raffinate stream.
   iii. A daily average chiller stack exit gas stream temperature less than or equal to 50 degrees F.

   [40 CFR 63.602(b)]

Testing [15A NCAC 02Q .0508(f)]

g. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.6 H.2.f above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f), 40 CFR 63.605(c)]

h. The Permittee shall comply with the following requirements:
   i. Install, calibrate, maintain, and operate a CMS according to your site-specific monitoring plan specified in Section 2.1.6 H.2.e above. The CMS must continuously measure and permanently record the stack gas exit temperature for each chiller stack.
   ii. Measure and record the concentration of methyl isobutyl ketone in each product acid stream and each raffinate stream once each day.

   If the daily average of the chiller stack temperature or the 30-day average concentration of methyl isobutyl ketone exceeds the limits in Section 2.1.6 H.2.f above, an exceedance will have occurred. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the CMS is not maintained, calibrated, operated, and the results recorded.

i. The Permittee shall conduct a performance evaluation, as specified in 40 CFR 63.8(e), in accordance with the site-specific monitoring plan required in Section 2.1.6 H.2.e above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the performance evaluation is not conducted as required. [40 CFR 63.606(m)]

j. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years. [40 CFR 63.607(b)(1) and (c)] The Permittee shall be deemed in noncompliance if these requirements are not met.

Leak Detection and Repair Requirements [40 CFR 63.602(b)]

k. The Permittee shall comply with the provisions of 40 CFR Part 63, Subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks). Affected equipment includes the following:
   i. pumps in light liquid service (40 CFR 63.163),
   ii. compressors (40 CFR 63.164),
   iii. pressure relief devices in gas/vapor service (40 CFR 63.165),
   iv. sampling connection systems (40 CFR 63.166),
   v. open-ended valves or lines (40 CFR 63.167),
   vi. valves in gas/vapor service and light liquid service (40 CFR 63.168),
   vii. pumps, valves, connectors, and agitators in heavy liquid service, instrumentation systems, and pressure relief devices in liquid service (40 CFR 63.169),
   viii. surge control vessels and bottoms receivers (40 CFR 63.170),
   ix. delay of repair equipment (40 CFR 63.171),
   x. closed-vent systems and control devices (40 CFR 63.172),
   xi. agitators in gas/vapor service and in light liquid service (40 CFR 63.173),
   xii. connectors in gas/vapor service and in light liquid service (40 CFR 63.174),

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if a leak detection and repair program that is consistent with the requirements of this Subpart is not implemented, including required recordkeeping requirements pursuant to 40 CFR 63.181.

Reporting [15A NCAC 02Q .0508(f)]

l. Summary report. If the total duration of control system exceedances for the reporting period is less than 1 percent of the total operating time for the reporting period or if CMS downtime for the reporting period is less than 5 percent of the total operating time for the reporting period, the Permittee shall submit a summary report containing the information specified in 40 CFR 63.10(e)(3)(iv) rather than the full excess emissions report. The summary report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. [40 CFR 63.607(b)(5), 40 CFR 63.10(e)(3)(vii)]

m. Excess emissions report. If the total duration of control system operating parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period or if the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Permittee shall submit both a Summary Report and an excess emissions report for any exceedance of an operating parameter limit. The report shall contain the information specified in 40 CFR 63.10 and 40 CFR 63.607(b)(4). The report shall be postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. If exceedances are reported, the Permittee shall report quarterly until a request to reduce reporting frequency is approved as described in 40 CFR 63.10. [40 CFR 63.607(b)(3) and (5), 40 CFR 63.10(e)(3)(viii)]

n. EPA Electronic Reporting Tool. Within 60 days after the date of completing each performance test (defined in 40 CFR 63.2) as required by 40 CFR Part 63, Subpart AA, the Permittee shall submit the results of the performance tests, including any associated fuel analyses, to the DAQ pursuant to 40 CFR 63.10(d)(2) and to the EPA via the procedures in 40 CFR 63.607(e)(1) or (2).

o. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the reporting requirements in Section 2.1.6 H.2.l through H.2.n above are not met.

2.1.6 I Purified Acid Plant No. 2 Train No. 4
Acid defluorination column with concentrator (ID No. S1288 and T1270) controlled with wet spray tower with demister pad (ID No. S1292), ep506

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Total Fluorides	0.0688 pounds per hour	15A NCAC 02D .0530
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

1. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD) BACT

a. For the Acid Defluorination and Concentrators the following table shall describe the emission standards:

Emission Source	Pollutant	Control Method	BACT Emission Limit
PAP No. 2 Scrubber Stack (ep506)	Total fluorides	Scrubbers	0.0688 pounds per hour

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.6 I.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

c. The Permittee shall conduct a performance test once per every permit term to demonstrate compliance with the applicable emission standard for Emission Point 506. Details of the emissions testing and requirements can be found in General Condition JJ. The scrubber stack shall be tested at a rate demonstrable by production records to be equal to or greater than the normal production rate of the source. The normal production rate (hourly) shall be calculated by dividing the total annual production for the plant by the number of hours that plant was operated during that year. The facility shall establish the normal production rate using the production records over the last production year. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

d. The Permittee shall install, calibrate, maintain, and operate a monitoring system that continuously measures and permanently records the pond liquid injection rate for each wet spray tower scrubber. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if these monitoring systems are not maintained, calibrated, operated, and the results recorded.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.6 I.1.d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2.1.6 J Purified Acid Plant No. 2 Train No. 4
Direct Cooling Tower No. 3 (ID No. 1380), ep518/519

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Total Fluorides	0.072 pounds per hour	15A NCAC 02D .0530
Particulate Matter	0.0367 pounds per hour	15A NCAC 02D .0530
Hazardous Air Pollutants	Operating limitations	15A NCAC 02D .1111 (40 CFR Part 63, Subpart AA)

1. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD) BACT

a. For the concentrators, the following table shall describe the emission standards:

Emission Source	Pollutant	Control Method	BACT Emission Limit
PAP No. 2 Cooling Tower No. 3	PM_{10}	Drift Elimination System	0.0367 pounds per hour
PAP No. 2 Cooling Tower No. 3	Total fluorides	Drift Elimination System	0.072 pounds per hour

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1.6 J.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is required to demonstrate compliance with this standard.

2. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart AA, Phosphoric Acid Manufacturing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart AA, "NESHAP from Phosphoric Acid Manufacturing Plants" including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.601]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.601 shall apply.

General Provisions [40 CFR 63.608]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA.

d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.608(b)]

Operating Limits [15A NCAC 02Q .0508(f)]

e. The Permittee shall not introduce into any evaporative cooling tower any liquid effluent from any absorber installed to control emissions from process equipment. [40 CFR 63.602(c)]

Monitoring/Recordkeeping [15A NCAC 02Q .0508 (f)]

f. The Permittee shall show compliance with the operating limit during inspections by the DAQ and shall certify to the DAQ annually that this requirement has been met. [40 CFR 63.607(b)(2)(i)]] The Permittee shall be deemed in noncompliance if these requirements are not met.

g. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years. [40 CFR 63.607(b)(1) and (c)] The Permittee shall be deemed in noncompliance if these requirements are not met.

2.1.6 K Purified Acid Plant No. 2 Train No. 4
Indirect Cooling Tower No. 4 (ID No. 1381) ep520/521

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter PM_{10}	0.072 pounds per hour	15A NCAC 02D .0530
Hazardous Air Pollutants	Operating limitations **See Section 2.2 B**	15A NCAC 02D .1111 (40 CFR Part 63, Subpart AA)

1. 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD) BACT

a. For the PAP Indirect Cooling Tower, the following table shall describe the emission standards:

Emission Source	Pollutant	Control Technology	BACT Emission Limit
PAP No. 2 Cooling Tower No. 4	PM_{10}	Drift Elimination System	0.072 pounds per hour

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.6 K.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is required to demonstrate compliance with this standard.

2. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart AA, Phosphoric Acid Manufacturing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart AA, "NESHAP from Phosphoric Acid Manufacturing Plants" including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.601]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.601 shall apply.

General Provisions [40 CFR 63.608]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA.

d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.608(b)]

Operating Limits [15A NCAC 02Q .0508(f)]

e. The Permittee shall not introduce into any evaporative cooling tower any liquid effluent from any absorber installed to control emissions from process equipment. [40 CFR 63.602(c)]

Monitoring/Recordkeeping [15A NCAC 02Q .0508 (f)]

f. The Permittee shall show compliance with the operating limit during inspections by the DAQ and shall certify to the DAQ annually that this requirement has been met. [40 CFR 63.607(b)(2)(i)]] The Permittee shall be deemed in noncompliance if these requirements are not met.

g. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years. [40 CFR 63.607(b)(1) and (c)] The Permittee shall be deemed in noncompliance if these requirements are not met.

2.1.6 L Purified Acid Plant Tank Farm

Two feed acid storage tanks (ID Nos. T3 and T1003), ep591
Two product under flow acid storage tanks (ID Nos. T137 and T1137) ep591, ep593
Eighteen carbon treated low alkali acid tanks (ID Nos. T67, T467, T267, T1067, T76, T106, T295, T1125, T276, T1106, T125, T1076, T95, T1095, T1267, T1467, T1276, and T1295) ep591, ep593
Seven product low alkali acid storage tanks (ID Nos. T130, T131, T132, T1130, T1131, T1132, and T1133) ep590
Four product high alkali acid storage tanks (ID Nos. T134A, T134B, T1134, and T1134B) ep590
Phosbrite/DAB mix tank (blending process) (ID No. T300) ep590
Dilution tank No. 1 (blending process) (ID No. T301) ep590
Dilution tank No. 2 (blending process) (ID No. T302) ep590
Sulfuric acid/DAB storage tank (blending process) (ID No. T302) ep590
Dilution tank No. 3 (blending process) (ID No. T304) ep590
Two DAB CF mix tanks (ID Nos. T305 and T306) ep590
Copper carbonate mix tank (ID No. T307) ep590
One head tank (ID No. T308) ep590
Purified Acid Plant No. 1 Tank Farm Fugitives (ID No. PAP No. 1 Tank Farm), ep591
Purified Acid Plant Fugitives (ID No. PAP Fugitives), ep592
Purified Acid Plant No. 2 Tank Farm fugitives (ID No. PAP No. 2 Tank Farm), ep593
PAP loading No. 1 (ID No. PAP1Load) ep594
PAP loading No. 2 (ID No. PAP2Load) ep595
PAP loading No. 3 (ID No. PAP3Load) ep596
PAP loading No. 4 (ID No. PAP4Load) ep597

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

2.1.7 Calcium Phosphate Production Area

2.1.7 A Limestone railcar unloading (ID No. 381.105) controlled by a baghouse (ID No. 381.106), ep759
Three limestone silos (ID Nos. 381.115, 381.125, and 381.135) controlled by baghouses (ID Nos. 381.110, 381.120, and 381.130, respectively), ep760, ep761, and ep762
Limestone supply weigh hopper (ID No. 381.145) controlled by an exhaust filter (ID No. 381.150), ep765
Ultra-low sulfur diesel fuel-fired dryer (ID No. 381.215) and delumper (ID No. 381.240) controlled by cyclone (ID No. 381.155) in parallel with cyclone (ID No. 381.160) in series with a venturi scrubber (ID No. 381.165), ep774
Screening/conveying operations (ID No. 381.SCREEN) controlled by cage mill dust collector (ID No. 381.385) in parallel with screen dust collector (ID No. 381.390), ep777
Product conveying operations (ID No. 381.CONVEY) controlled by a dust collector (ID No. 381.490), ep717
Final screening operations (ID No. 381.FINAL) controlled by a dust collector (ID No. 381.555), ep783
Loadout hopper (ID No. 381.575) and conveyer (ID No. 381.435) controlled by a shipping dust collector (ID No. 381.440), ep718
Truck/Railcar loadout (ID No. 381.LOAD) controlled by a dust collector (ID No. 381.585), ep754

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	$E = 4.10 \times P^{0.67}$ (for process rates ≤ 30 tons per hour), or $E = 55.0 \times P^{0.11} - 40$ (for process rates > 30 tons per hour) Where: E = allowable emission rate in pounds per hour P = rock throughput in tons per hour	15A NCAC 02D .0515
Sulfur Dioxide	**ID No. 381.215 only** 2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
N/A	Submit Title V permit application within one year from the date of beginning operation of applicable sources	15A NCAC 02Q .0504
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equations:

$E = 4.10 \times P^{0.67}$ (for process rates less than or equal to 30 tons per hour), or
$E = 55.0 \times P^{0.11} - 40$ (for process rates greater than 30 tons per hour)

Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0308(a)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ.

c. Pursuant to NCGS 143-215.108, the Permittee shall determine the minimum daily average pressure drop and liquid injection rate for the venturi scrubber **(ID No. 381.165)** by testing the dryer and delumper **(ID No. 381.215 and 381.240)** for particulate matter (PM) in accordance with General Condition JJ. The testing shall be conducted and source test results submitted to the DAQ within 180 days of commencing operation of the dryer and delumper, unless an alternate date is approved in advance by DAQ.

Monitoring/Recordkeeping [15A NCAC 02Q .0308(a)]

d. Particulate matter emissions from these sources **(ID Nos. 381.105, 381.115, 381.125. 381.135, and 381.145)** shall be controlled by bagfilters. Particulate matter emissions from these sources **(ID Nos. 381.SCREEN, 381.CONVEY, 381.FINAL, 381.575, 381.435, and 381.LOAD)** shall be controlled by dust collectors. To ensure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. A monthly visual inspection of the system ductwork and material collection unit for leaks; and
   ii. An annual (for each 12-month period following the initial inspection) internal inspection of the bagfilters' or dust collectors' structural integrity.

e. The results of inspection and maintenance on the bagfilters and dust collectors shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each inspection;
   iii. The results of any maintenance performed on the bagfilters; and
   iv. Any variance from manufacturer's recommendations, if any, and corrections made.

f. Particulate matter emissions from the dryer and delumper **(ID No. 381.215 and 381.240)** shall be controlled by cyclones **(ID Nos. 381.155 and 381.160)** and a venturi scrubber **(ID No. 381.165)**. The venturi scrubber shall meet the minimum daily average pressure drop of the gas stream across the scrubber and the minimum daily average flow rate of the scrubbing liquid established during initial testing specified in above in Section 2.1.7 A.1.c.

g. The Permittee shall install, calibrate, maintain, and operate monitoring systems to monitor and record the following:
   i. The pressure drop of the gas stream across the venturi scrubber; and
   ii. The flow rate of the scrubbing liquid to the venturi scrubber.

Reporting [15A NCAC 02Q .0308(a)]

h. The Permittee shall submit the results of any maintenance performed on the bagfilters or dust collectors within 30 days of a written request by the DAQ.

i. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.7 A.1.d through A.1.g postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June.

2. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from the dryer **(ID No. 381.215)** shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Testing

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0308(a)]

c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the firing of ultra-low sulfur diesel fuel in the dryer **(ID No. 381.215).**

3. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0308(a)]

b. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ.

Monitoring/Recordkeeping [15A NCAC 02Q .0308(a)]

c. To ensure compliance, once a month the Permittee shall observe the emission points of these sources for any visible emissions above normal. The monthly observation must be made for each month of the calendar year period to ensure compliance with this requirement. The Permittee shall establish "normal" for these sources in the first 30 days following the effective date of beginning operation. If visible emissions from these sources are observed to be above normal, the Permittee shall either:
   i. Take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1.7 A.3.a. above.

d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. The date of each recorded action;
   ii. The results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
   iii. The results of any corrective actions performed.

Reporting [15A NCAC 02Q .0308(a)]

e. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.7 A.3.c and A.3.d above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June.

4. 15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT

Permitting [15A NCAC 02Q .0504(d)]

a. Pursuant to 15A NCAC 02Q .0501(b)(2), for completion of the two-step significant modification process initiated by Application No. 0700071.20A, the Permittee shall file an amended application following the procedures of Section 15A NCAC 02Q .0500 to modify the construction and operation permit on or before 12 months after commencing operation of any of the emission sources or control devices listed in Section 1.7 above.

Reporting [15A NCAC 02Q .0504]

b. The Permittee shall notify the Regional Office in writing of the date of beginning operation of the first of any of the emission sources or control devices listed in Section 1.7, postmarked no later than 30 days after such date.

2.1.8 Shipping Operations

2.1.8 A Ammonia Rail Car Unloading, Truck Unloading, and Storage Tanks, ep601 through ep605 and epNH3TRK1 and epNH3TRK2
Sulfur Unloading, ep610 through ep614
Railcar Wash Station No. 1 (ID No. Railcar Wash 1), ep615
Railcar Wash Station No. 2 (ID No. Railcar Wash 2), ep617
Phosphoric/Superphosphoric Acid Shipping Tank Farm and Miscellaneous Sources, ep616
Truck loading (ID No. Truckload), ep660
North, Central, and South Rail Loading (ID Nos. Northload, Southload, and Centraload), ep661, ep662, and ep663
APP Loading Nos. 1, 2, and 3 (ID Nos. APP1load, APP2load, and APP3load), ep664, ep665, and ep666
HFSA Loading (ID No. HFSAload), ep667
Phosphoric Acid Rail Loading Station (ID No. DFMGAALoad), ep668
Barge Slip 1 and 2 Loading (ID Nos. Barge1 and Barge2), ep672 and ep673

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	**State-enforceable only** **See Section 2.2 A.1 and Attachment 1**	15A NCAC 02D .1100
N/A	**For ID Nos. 453-750, 453-800, 558-300, 454-240, 454-280, or 454-300, only** Submit Title V permit application within one year from the date of beginning operation of applicable sources **See Section 2.2 B.2**	15A NCAC 02Q .0504
N/A	**See Section 2.2 D.1** **[Affected Source: ID No. Sulfur Unloading]** Submit Title V permit application within one year from the date of beginning operation of applicable sources	15A NCAC 02Q .0504

2.1.9 Miscellaneous Sources

2.1.9 A Diesel-fired emergency engine for backup power at DPW water pumps in mine (ID No. 404-814), ep801

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Hazardous Air Pollutants	There are no requirements under MACT Subpart ZZZZ for this engine.	15A NCAC 02D .1111 (40 CFR 63, Subpart ZZZZ)
Nitrogen Oxides	39.3 tons per year	15A NCAC 02Q .0317 (Avoidance of 15A NCAC 02D .0530)

1. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source se sources **(ID No. 404-814)** shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.9 A.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the firing of diesel in this source **(ID No. 404-814)**.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source **(ID No. 404-814)** shall not be more than 20 percent opacity (except during startup, shutdowns, and malfunctions approved as such according to procedures approved under 15A NCAC 02D .0535) when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.9 A.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or /reporting is required for visible emissions from the firing of diesel in this source **(ID No. 404-814)**.

3. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart ZZZZ, Stationary Reciprocating Internal Combustion Engines)

Applicability [40 CFR 63.6585, 63.6590(a)(1)(i)]

a. For these emission source (**ID No. 404-8141**) (existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions), the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC

02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63 Subpart ZZZZ "National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines," including Subpart A "General Provisions."

Stationary RICE subject to limited requirements [40 CFR 63.6590(b)]

b. Pursuant to 40 CFR 63.6590(b)(3)(iii), this source does not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:

4. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The generator **(ID No. 404-814)** shall discharge into the atmosphere less than 39.3 tons of nitrogen oxides per consecutive 12-month period.

b. To ensure compliance with the emission limit above total fuel usage in the generator shall be limited to 446,000 gallons of diesel fuel per consecutive 12-month period.

Testing [15A NCAC 02Q .0508(f)]

c. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1.9 A.4.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

d. The Permittee shall maintain fuel usage logbook (written or electronic form) that demonstrates that actual annual (12-month) consumption of diesel fuel from the source less than the limit in Section 2.1.9 A.4.a above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the fuel usage exceeds the above limit. The logbook must be made available to an authorized representative upon request.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of monitoring and recordkeeping activities given in Section 2.1.9 A.4.d above, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2.1.9 B Cooling Pond Nos. 1, 2, and 1A (ID Nos. CP No. 1, CP No. 2, and CP No. 1A), ep910, ep914, and ep922
Mill Pond (ID No. 957), ep957
Recycle Lake (ID No. 958), ep958)

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Total Fluorides	Cooling pond requirements **(ep910, ep914, and ep922 only)**	15A NCAC 02D .1111 (40 CFR Part 63, Subpart AA)
Toxic Air Pollutants	**State-enforceable only See Section 2.2 A.1 and Attachment 1 (ep957 and ep958 only)**	15A NCAC 02D .1100

1. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart AA, Phosphoric Acid Manufacturing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart AA, "NESHAP from Phosphoric Acid Manufacturing Plants" including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.601]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.601 shall apply.

General Provisions [40 CFR 63.608]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA.

d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.608(b)]

Monitoring and Recordkeeping [15A NCAC 02Q .0508 (f)]

e. For Cooling Pond Nos. 1, 2, and 1A **(ID Nos. CP No. 1, CP No. 2, and CP No. 1A)**, the Permittee shall:
   i. The Permittee shall prepare, and operate in accordance with, a cooling pond management plan that contains the information specified in 40 CFR 63.602(e). [40 CFR 63.602(d)]
   ii. The Permittee shall submit the cooling pond management plan for approval to the DAQ as specified in 40 CFR 63.602(e)(4). [40 CFR 63.602(e)]
   iii. To change any of the information submitted in the plan, the Permittee shall submit a revised plan 60 days before the planned change is to be implemented in order to allow time for review and approval by the DAQ before the change is implemented. [40 CFR 63.602(e)(4)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the cooling pond management plan is not prepared, submitted, and operated as specified above.

f. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years. [40 CFR 63.607(b)(1) and (c)] The Permittee shall be deemed in noncompliance if these requirements are not met.

2.1.9 C Gypsum Stack Pond No. 4 (ID No. GYP Pond No. 4), ep955A

Gypsum Stack Pond No. 5 (ID No. GYP Pond No. 5), ep950A
Gypsum Stack Pond No. 6 (ID No. GYP Pond No. 6), ep954A

The following table provides a summary of limits and standards for the emission source(s) described above:

Pollutant	Limits/Standards	Applicable Regulation
Radon-222	Inactive stacks shall not emit more than 20 picocuries per square meter-seconds ($pCi/m^2 \cdot s$)	15A NCAC 02D .1110 (40 CFR Part 61, Subpart R)
Total fluorides	Gypsum dewatering pond requirements	15A NCAC 02D .1111 (40 CFR Part 63, Subpart AA)

1. 15A NCAC 02D .1110: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS for 40 CFR 61, Subpart R – Radon Emissions From Phosphogypsum Stacks

a. All phosphogypsum generated shall be placed in stacks. [40 CFR 61.202]
b. Phosphogypsum may only be removed from a phosphogypsum stack as expressly provided in 40 CFR 61, Subpart R. [40 CFR 61.202]
c. After a phosphogypsum stack has become inactive, the stack may not emit more than 20 $pCi/m^2 \cdot s$ of radon-222. [40 CFR 61.202]

Testing[15A NCAC 02Q .0508(f)]

d. Within sixty (60) days following the date on which a phosphogypsum stack becomes inactive, the Permittee shall test the stack for radon-222 flux in accordance with the procedures described in 40 CFR 61, Appendix B, Method 115, unless Administrator waives the testing requirement in accordance with the procedures in 40 CFR 61.13(i). In addition to the test methods provided above:
   i. Testing shall be performed in accordance with General Condition JJ; and
   ii. Notifications and reports shall be provided to U.S. EPA as provided in 40 CFR 61.203.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1110 if the above requirements are not met or if the test results exceed the above limit in Section 2.1.9 C.1.c above. [40 CFR 61.203]

Recordkeeping [15A NCAC 02Q .0508(f)]

e. The Permittee shall create and maintain a record for each phosphogypsum stack documenting the procedure used to verify compliance with the flux standard in Section 2.1.9 C.1.c above, including all measurements, calculations, and analytical methods on which input parameters were based. The required documentation shall be sufficient to allow an independent auditor to verify the correctness of the compliance determination. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1110 if the required records are not created and maintained. [40 CFR 61.209(a)]

2. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (40 CFR Part 63 Subpart AA, Phosphoric Acid Manufacturing Plants)

a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, monitoring, and reporting requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR Part 63, Subpart AA, "NESHAP from Phosphoric Acid Manufacturing Plants" including Subpart A "General Provisions."

Definitions and Nomenclature [40 CFR 63.601]

b. For the purpose of this permit condition, the definitions and nomenclature contained in 40 CFR 63.601 shall apply.

General Provisions [40 CFR 63.608]

c. The Permittee shall comply with the requirements of 40 CFR Part 63, Subpart A, "General Provisions," as specified in Appendix A to 40 CFR Part 63, Subpart AA.
d. At all times, the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination by the Administrator of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of

operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.608(b)]

Monitoring and Recordkeeping [15A NCAC 02Q .0508(f)]

e. The Permittee shall:
   i. The Permittee shall prepare, and operate in accordance with, a gypsum dewatering stack management plan that contains the information specified in 40 CFR 63.602(e). [40 CFR 63.602(d)]
   ii. The Permittee shall submit the gypsum dewatering stack management plan for approval to the DAQ as specified in 40 CFR 63.602(e)(4). [40 CFR 63.602(e)]
   iii. To change any of the information submitted in the plan, the Permittee shall submit a revised plan 60 days before the planned change is to be implemented in order to allow time for review and approval by the DAQ before the change is implemented. [40 CFR 63.602(e)(4)]

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the gypsum dewatering stack management plan is not prepared, submitted, and operated as specified above.

f. The Permittee shall maintain records as required in 40 CFR 63.10(b)(1). Records shall be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on site, or accessible from a central location by computer or other means that instantly provides access at the site, for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years. [40 CFR 63.607(b)(1) and (c)] The Permittee shall be deemed in noncompliance if these requirements are not met.

Reporting [15A NCAC 02Q .0508(f)]

g. Each time a gypsum dewatering stack is closed, the Permittee shall certify to the DAQ within 90 days of closure, that the final cover of the closed gypsum dewatering stack is a drought resistant vegetative cover that includes a barrier soil layer that will sustain vegetation. [40 CFR 63.607(b)(v)]

2.2 Multiple Emission Source(s) Specific Limitations and Conditions

A. Facility-Wide

The following table provides a summary of limits and standards for the emission source(s) describe above:

Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	Specific limits listed in Attachment 1	15A NCAC 02D .1100
Pollutants regulated under 40 CFR Part 68	Comply with all applicable requirements in accordance with 40 CFR Part 68.	15A NCAC 02D .2100

State-enforceable only

1. 15A NCAC 02D .1100: TOXIC AIR POLLUTANT EMISSION LIMITATIONS AND REQUIREMENTS

a. Pursuant to 15A NCAC 02D .1100 and in accordance with the approved application for an air toxic compliance demonstration, the permit limits found in Attachment 1 shall not be exceeded.

b. To ensure compliance with the limits in Attachment 1, the following restrictions shall apply:
   i. The Permittee shall maintain records of production rates, material feed rates and other process operational information as is necessary to determine compliance with the process operating limitations cited for each affected source in Section 2.1 of this permit and the corresponding toxic pollutant emission limits contained in Attachment 1.
   ii. For each emission source affected by 15A NCAC 02D .1100, as specifically provided in Section 2.1 of this permit, for which emissions are abated by control devices or enclosures, an inspection, maintenance and monitoring program shall be provided to ensure that maximum control efficiency is maintained. The Permittee shall maintain a written, comprehensive program on-site which details the scheduled maintenance and monitoring activities for each control device as recommended by the equipment manufacturer. The defined activities will be performed on a set schedule (weekly, monthly, quarterly, annually) with a method of tracking and recording the completion of each activity. Both the monitoring and maintenance activities will be specific. The monitoring activities will be quantifiable and will be compared against design parameters with dated actions noted to correct out of specification operations. A centralized recording keeping system shall be utilized to define the activities and record actions as a demonstration of compliance.
   iii. The air toxic model submitted as part of the most recent application is considered part of the binding limits and conditions of this permit. The application specified certain parameters for modeling compliance with 15A NCAC 02D .1100 "Control of Toxic Air Pollutants." A new permit is required prior to changing any of these parameters. Changes in equipment of operations that affect stack exhaust temperature or the stack gas exit velocity, or changes in facilities such as location of new buildings or structures in close proximity to the modeled stack that could significantly increase the modeled emissions would require an amended permit application.

c. The Permittee shall demonstrate compliance with the sulfuric acid mist emission limits for the sulfuric acid plants **(ID Nos. S-5, S-6, and S-7)** by performing emissions tests for sulfuric acid mist on each sulfuric acid plant on a triennial basis. Emissions testing requirements can be found in General Condition JJ. If the sulfuric acid mist emissions from a sulfuric acid plant measured during a performance test are greater than or equal to 80 percent of the relevant sulfuric acid mist emission limit given in Attachment 1, below, the Permittee shall resume performance testing on an annual basis. If the sulfuric acid mist emissions from the sulfuric acid plant measured during two consecutive performance tests are less than 80 percent of the relevant sulfuric acid emission limit given in Attachment 1, below, the Permittee may resume triennial testing of that sulfuric acid plant for sulfuric acid mist.

d. The Permittee shall submit a summary report of monitoring and recordkeeping postmarked on or before January 30 for the preceding six-month period between July and December and July 30 for the preceding six-month period between January and June. The report shall include the following:
   i. A verification that all actual measured production and material feed rates cited in 15A NCAC 02D .1100 stipulations throughout this permit were all within the permit limitations over the past quarter. If exceedances occur, identify source, limitation, date, and corrective actions taken to bring into compliance.
   ii. A verification that all scheduled maintenance and monitoring activities required in 15A NCAC 02D .1100 stipulations throughout this permit were completed as scheduled.

2. 15A NCAC 02D .2100, RISK MANAGEMENT PROGRAM

a. The Permittee is subject to Section 112(r) of the Clean Air Act and shall comply with all applicable requirements in 15A NCAC 02D .2100, "Risk Management Program," as promulgated in 40 CFR Part 68.

Recordkeeping/Reporting [15A NCAC 02Q .0508(f), 15A NCAC 02Q .0508(h)]

b. The Permittee shall submit an update to the Risk Management Plan (RMP) to EPA pursuant to 40 CFR 68.150 no later than **February 7, 2027**, or as specified in 40 CFR 68.10.
c. The Permittee shall revise and update the RMP submitted under 40 CFR 68.150 no later than **February 7, 2027** and at least every five years after that date or most recent update as required by 40 CFR 68.190(b)(2) through (b)(7), whichever is later.
d. When the Permittee submits the Annual Compliance Certification required by General Condition P, the Permittee shall include a statement that the facility is in compliance with all requirements of 15A NCAC 02D .2100, including the registration and submission of the risk management plan.

B. Superphosphoric Acid Production

- **Superphosphoric acid plant No. 3 (ID Nos. 451-316 and 451-308) and superphosphoric acid plant No. 4 (ID Nos. 451-916 and 451-940) and with venturi type wet scrubber (ID No. 451-315), ep332**
- **Super phosphoric acid plant No. 5 (ID Nos. 451-1100 and 451-1200) with venturi type wet scrubber (ID No. 451-1300), ep333**
- **Superphosphoric acid process vessel (shipping tank farm) (ID No. 453-143), ep616**
- **LOMAG Aging Tank # 2 (ID No. 453-750), ep616**
- **No. 1 filter press/filter press repulp tank (ID No. FPR-1), ep335**
- **No. 2 filter press (ID No. FPR-2), ep305**
- **No. 2 and No. 3 filter presses repulp tank (ID No. 453-406), ep336**
- **Black LOMAG tank (ID No. Black Lomag), ep616**
- **LOMAG Tank # 2 (ID No. 453-800), ep616**

Ammonium Polyphosphate Production

- **Ammonium Polyphosphate Plant – Line 1 (ID No. APP-1), ep304**
- **Filtration Tank (ID No. Filtration Tank), ep616**
- **1,000 gallon Concertation Tank (ID Concentration Tank), ep616**
- **1,000 gallon Permeate Tank (ID No. Permeate Tank), ep616**
- **Tank 028 (APP Shipping Tank) (ID No. 558-028), ep616**
- **Ammonium Polyphosphate Plant – Line 2 (ID No. 454-200), ep306**
- **Filtration Feed Tank # 2 (ID No. 454-240), ep616**
- **Filtration Concentration Tank #2 (ID No. 454-280), ep616**
- **Filtration Permeate Tank #2 (ID No. 454-300), ep616**
- **Ammonium Polyphosphate Plant – Shipping Tank # 2 (ID No. 558-300), ep616**

Sulfuric Acid Production (associated with only incremental sulfuric acid used in ammonium polyphosphate production)

- **Double-absorption sulfuric acid plant No. 5 (ID No. S-5) with vertical tube mist eliminator (ID No. 415-934), ep103**
- **Double-absorption sulfuric acid plant No. 6 (ID No. S-6) with vertical tube mist eliminator (ID No. 406-129), ep104**
- **Double-absorption sulfuric acid plant No. 7 (ID No. S-7) with vertical tube mist eliminator (ID No. 407-258), ep105**

Cooling Tower (ID No. I-APPCOOLTOWER), ep393

The following table provides a summary of limits and standards for the emission source(s) describe above:

Pollutant	Limits/Standards	Applicable Regulation
Sulfur Dioxide Particulate Matter Nitrogen Oxides	Monitor and report emissions	15A NCAC 02D .0530(u)
N/A	Submit Title V permit application within one year from the date of beginning operation of applicable sources	15A NCAC 02Q .0504

1. 15A NCAC 02D .0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF REQUIREMENTS OF PSD

a. The Permittee has used projected actual emissions to avoid applicability of prevention of significant deterioration requirements for a project to expand production of Ammonium Polyphosphate (APP) as specified in Air Permit Application No. 0700071.17C. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the testing, recordkeeping and reporting requirements in Section 2.2 B.1.c and B.1.d below.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ.

Recordkeeping [15A NCAC 02Q .0508(f)]

c. The Permittee shall maintain records of actual emissions for PM, PM_{10}, $PM_{2.5}$, SO_2, and Fluorides (other than Hydrogen Fluoride), as applicable, in tons per year on a calendar year basis for five years upon commencement of operation of Ammonium Polyphosphate Plant – Line 2 **(ID No. 454-200)** or superphosphoric acid plant No. 5 **(ID Nos. 451-1100 and 451-1200),** whichever is earliest. The Permittee shall maintain records of the amount of sulfuric acid feed to the APP plants **(ID Nos. APP-1 and 454-200)** and shall calculate emissions of PM, PM_{10}, $PM_{2.5}$, SO_2 from the sulfuric acid plants **(ID Nos. S-5, S-6, and S-7)** based on this amount. The Permittee shall make the information, documented and maintained under this condition available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).

Reporting [15A NCAC 02Q .0508(f)]

d. The Permittee shall submit a report for PM, PM_{10}, $PM_{2.5}$, SO_2, and Fluorides (other than Hydrogen fluoride) emissions to the Director within 60 days after the end of each calendar year during which the records in Section 2.2 B.1.c above. must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c).

The reported actual emissions for each of the five calendar years for PM, PM_{10}, $PM_{2.5}$, SO_2, and Fluorides (other than Hydrogen fluoride) will be compared to the respective projected actual emissions as included below:

Pollutant	Projected Actual Emissions* (Tons per Year)
$PM/PM_{10}/PM_{2.5}$	2.82
SO_2	17.22
Fluorides (other than HF)	1.55

* The projected actual emissions are not enforceable limitations. If the reported actual emissions exceed the projected actual emissions, the Permittee shall include in its annual report an explanation as to why actual emissions exceeded the projected actual emissions.

2. 15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT

Permitting [15A NCAC 02Q .0504(d)]

a. Pursuant to 15A NCAC 02Q .0501(b)(2), for completion of the two-step significant modification process initiated by Application No. 0700071.17C, the Permittee shall file an amended application following the procedures of Section 15A NCAC 02Q .0500 within one year from the date of beginning operation of any of these sources **(ID Nos. 454-200, 451-1100 and 451-1200, 453-750, 453-800, 558-300, 454-240, 454-280, or 454-300).**

Reporting [15A NCAC 02Q .0508(f)]

b. The Permittee shall notify the Regional Office in writing of the date of beginning operation of any of these sources **(ID Nos. 454-200, 451-1100 and 451-1200, 453-750, 453-800, 558-300, 454-240, 454-280, or 454-300)**, postmarked no later than 30 days after such date.

C. Diammonium Phosphate Plant No. 2 (ID Nos. 505-104, 505-107, 505-114, 505-110, 505-143, 505-111, 505-103, 505-121), ep303
Fertilizer Warehouse Fugitives: Warehouse No. 3 (ID No. DAP3WH3), ep390
Fugitive Plant Fugitives (ID Nos. F391 and F392), ep391, ep392

1. 15A NCAC 02D .0530(u): USE OF PROJECTED ACTUAL EMISSIONS TO AVOID APPLICABILITY OF REQUIREMENTS OF PSD

a. The Permittee has used projected actual emissions to avoid applicability of prevention of significant deterioration requirements pursuant to application 0700071.20C for the DAP Plant No. 2 Replacement Project. In order to verify the assumptions used in the projected actual emissions calculations, the Permittee shall comply with the requirements in Section 2.2 C.1.c below.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ.

Monitoring/Recordkeeping/Reporting {15A NCAC 02Q .0508(f)]

c. The Permittee shall perform the following:
   i. The Permittee shall maintain records of annual SO_2, PM, PM_{10}, $PM_{2.5}$, NO_X, and Fluoride (excluding HF) from DAP/MAP Plant No. 2 **(ep303)** in tons per year, on a calendar year basis, related to the DAP/MAP Plant No. 2 Replacement Project, for five years following resumption of regular operations after the change is made.
   ii. The Permittee shall submit a report to the Director within 60 days after the end of each calendar year during which these records must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a-c).
   iii. The Permittee shall make the information documented and maintained under this condition available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).
   iv. The reported actual emissions (post-construction emissions) for each of the five calendar years will be compared to the projected actual emissions (pre-construction projection) as included below:

Pollutant	Projected Actual Emissions* (tpy)
SO_2	43.6
NO_X	16.74
PM	53.83
PM_{10}	39.96
$PM_{2.5}$	33.34
Lead	4.71E-03
Fluorides (excluding HF)	5.4

* The projected actual emissions are not enforceable limitations. If the reported actual emissions exceed the projected actual emissions, the Permittee shall include in its annual report an explanation as to why actual emissions exceeded the projected actual emissions.

D. Sulfuric Acid Plant No. 5 (ID No. S-5), ep103
Sulfuric Acid Plant No. 6 (ID No. S-6), ep104
Sulfuric Acid Plant No. 7 (ID No. S-7), ep105
Sulfur Railcar Unloading (ID No. Sulfur Unloading), ep610 through ep614
Sulfuric Acid Loading Station (ID No. I-SAL)

1. 15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT

Permitting [15A NCAC 02Q .0504(d)]

a. Pursuant to 15A NCAC 02Q .0501(b)(2), for completion of the two-step significant modification process initiated by Application No. 0700071.22B, the Permittee shall file an amended application following the procedures of Section 15A NCAC 02Q .0500 within one year from the date of beginning operation of this source **(ID No. I-SAL)** included in the Sulfuric Acid Project.

Reporting [15A NCAC 02Q .0308(a)]

b. The Permittee shall notify the Regional Office in writing of the date of beginning operation of this source **(ID No. I-SAL)** included in the Sulfuric Acid Project, postmarked no later than 30 days after such date.

2.3 Other Applicable Requirements

A. Mill Area (ID Nos. 339-051, 339-052, 339-053, 339-054, 339-055, 339-056, 332-120, Belt 55 to Belt 70.1, Belt 22 to Belt 23 or Belt 24, Belt25 and Belt26 to Belt27, and F291)

Fertilizer Production Area (ID Nos. 511-085, 511-086,511-070, 511-032, 511-008, 511-009, 511-010, 511-011, 511-016, 511-017, 511-038, 511-039, 511-041, 511-093, 511-094, 511-095, 511-096, and 511-025)

Superphosphoric Acid Production Area (ID Nos. 451-418, 451-409, 451-701, 451-809, 451-316, 451-308, 451-916, and 451-940)

Phosphoric Acid Production Area (ID Nos. 421-201, 421-000, 421-325, 421-327, 421-223, 421-232, 421-218, 421-330, 422-201, 422-000, 422-325, 422-327, 422-223, 422-232, 422-218, 422-330, 423-201, 423-000, 423-325, 423-327, 423-223, 423-232, 423-218, 423-330, 424-201, 424-000, 424-325, 424-327, 424-223, 424-232, 424-218, and 424-330)

1 15A NCAC 02D .0543: Best Available Retrofit Technology

Based on the review of Permit Application 0700071.06D, and with the consideration of comments received from interested parties, NC DAQ has determined that Best Available Retrofit Technology (BART) for the following emission sources subject to the requirements contained in 15A NCAC 02D .0543 "Best Available Retrofit Technology" is no additional controls.

Emission Source ID No.	Emission Source Description	Emission Point (ep)
339-051	One coal/coke/"off-spec" used oils, used oil sludge/used glycols/No. 2 fuel oil/No. 6 fuel oil/natural gas-fired vertical fluidized bed, phosphate rock calciner unit No. 1 (105.1 tons per hour nominal feed capacity)	201
339-052	One coal/coke/"off-spec" used oils, used oil sludge/used glycols/No. 2 fuel oil/No. 6 fuel oil/natural gas-fired vertical fluidized bed, phosphate rock calciner unit No. 2 (105.1 tons per hour nominal feed capacity)	202
339-053	One coal/coke/"off-spec" used oils, used oil sludge/used glycols/No. 2 fuel oil/No. 6 fuel oil/natural gas-fired vertical fluidized bed, phosphate rock calciner unit No. 3 (105.1 tons per hour nominal feed capacity)	203
339-054	One coal/coke/"off-spec" used oils, used oil sludge/used glycols/No. 2 fuel oil/No. 6 fuel oil/natural gas-fired vertical fluidized bed, phosphate rock calciner unit No. 4 (105.1 tons per hour nominal feed capacity)	204
339-055	One coal/coke/"off-spec" used oils, used oil sludge/used glycols/No. 2 fuel oil/No. 6 fuel oil/natural gas-fired vertical fluidized bed, phosphate rock calciner unit No. 5 (105.1 tons per hour nominal feed capacity)	205
339-056	One coal/coke/"off-spec" used oils, used oil sludge/used glycols/No. 2 fuel oil/No. 6 fuel oil/natural gas-fired vertical fluidized bed, phosphate rock calciner unit No. 6 (105.1 tons per hour nominal feed capacity)	206
332-120	Residual oil-fired phosphate rock dryer (250 tons per hour nominal capacity)	210
Belt 55 to Belt 70.1	Calcined rock CTS Baghouse	221
Belt 22 to Belt 23 or Belt 24	Storage silo baghouse	222
Belt25 and Belt26 to Belt27	Calcined/dried rock CTS	227
F291	Calciner Plant Area Fugitives	291
511-085, 511-086, 511-070	Diammonium Phosphate Plant No. 3 first stage reactor second stage reactor granulator	302

Emission Source ID No.	Emission Source Description	Emission Point (ep)
511-032	Diammonium Phosphate Plant No. 3 residual oil/No. 2 fuel oil/natural gas fired dryer	302
511-008, 511-009, 511-010, 511-011, 511-016, 511-017, 511-038, 511-039, 511-041, 511-093, 511-094, 511-095, 511-096	Diammonium Phosphate Plant No. 3 process sizing and handling equipment (four (4) chain mills, screen feed drag conveyor, recycle drag conveyor, recycle elevator, dryer elevator, product elevator, and four (4) double-deck product screens)	302
511-025	Diammonium Phosphate Plant No. 3 cooler and other miscellaneous material handling points	302
451-418 and 451-409	Superphosphoric acid plant No. 1	330
451-701 and 451-809	Superphosphoric acid plant No. 2	331
451-316 and 451-308	Superphosphoric acid plant No. 3	332
451-916 and 451-940	Superphosphoric acid plant No. 4	332
421-201	Reactor Train No. 1	401
421-000	Tilting pan (Bird) filter No. 1	401
421-325	Tilting pan (Bird) filter No. 1 primary vacuum pump installed on primary vacuum separator	401
421-327	Secondary vacuum pump installed on secondary vacuum separator	401
421-223, 421-232	Two (2) barometric condensers vacuum pumps	401
421-218	Barometric condensers hotwell	401
421-330	Tilting pan (Bird) filter No. 1 seal tanks	401
422-201	Reactor Train No. 2	404
422-000	Tilting pan (Bird) filter No. 2	404
422-325	Tilting pan (Bird) filter No. 2 primary vacuum pump installed on primary vacuum separator	404
422-327	Secondary vacuum pump installed on secondary vacuum separator	404
422-223, 422-232	Two (2) barometric condensers vacuum pumps	404
422-218	Barometric condensers hotwell	404
422-330	Tilting pan (Bird) filter No. 2 seal tanks	404
423-201	Reactor Train No. 3	406
423-000	Tilting pan (Bird) filter No. 3	406
423-325	Tilting pan (Bird) filter No. 3 primary vacuum pump installed on primary vacuum separator	406
423-327	Secondary vacuum pump installed on secondary vacuum separator	406
423-223, 423-232	Two (2) barometric condensers vacuum pumps	406
423-218	Barometric condensers hotwell	406
423-330	Tilting pan (Bird) filter No. 3 seal tanks	406
424-201	Reactor Train No. 4	409
424-000	Tilting pan (Bird) filter No. 4	409
424-325	Tilting pan (Bird) filter No. 4 primary vacuum pump installed on primary vacuum separator	409
424-327	Secondary vacuum pump installed on secondary vacuum separator	409
424-223, 424-232	Two (2) barometric condensers vacuum	409
424-218	Barometric condensers hotwell	409
424-330	Tilting pan (Bird) filter No. 4 seal tanks	409

2.4 Consent Decree

A. Nos. 5, 6, and 7 Sulfuric Acid Plants (ID Nos. S-5, S-6, and S-7)

1. CONSENT DECREE CIVIL ACTION NO. 14-707-BAJ-SCR

a. The Permittee shall comply with the terms and conditions of Consent Decree Civil Action No. 14-707-BAJ-SCR, effective February 26, 2015. The following requirements apply to Sulfuric Acid Plants Nos. 5, 6, and 7 **(ID Nos. S-5, S-6, and S-7).**

Emission Limitations [02Q .0508(i)(16) and]

b. By no later than the compliance deadline specified in Section 2.4 A.1.g, below, the sulfur dioxide emissions from Sulfuric Acid Plant No. 5 **(ID No. S-5)** shall not exceed the following emissions limitations:
   i. Short-Term Limit: 3.2 pounds per ton of 100 percent sulfuric acid production on a 3-hour rolling average basis.
   ii. Long-Term Limit: 2.5 pounds per ton of 100 percent sulfuric acid production on a 365-day rolling average basis.

c. By no later than the compliance deadline specified in Section 2.4 A.1.g, below, the sulfur dioxide emissions from Sulfuric Acid Plant No. 6 **(ID No. S-6)** shall not exceed the following emissions limitations:
   i. Short-Term Limit: 3.3 pounds per ton of 100 percent sulfuric acid production on a 3-hour rolling average basis.
   ii. Long-Term Limit: 2.5 pounds per ton of 100 percent sulfuric acid production on a 365-day rolling average basis.

d. By no later than the compliance deadline specified in Section 2.4 A.1.g, below, the sulfur dioxide emissions from Sulfuric Acid Plant No. 7 **(ID No. S-7)** shall not exceed the following emissions limitations:
   i. Short-Term Limit: 3.0 pounds per ton of 100 percent sulfuric acid production on a 3-hour rolling average basis.
   ii. Long-Term Limit: 1.75 pounds per ton of 100 percent sulfuric acid production on a 365-day rolling average basis. PCS shall commence monitoring to determine compliance with the long-term limit beginning January 1, 2019, but compliance with the limit shall not be determined until one year later. This limit is subject to future adjustment as described in Paragraph 9.e of Consent Decree Civil Action No. 14-707-BAJ-SCR. If the limit is adjusted, the Permittee shall comply with a new long-term emission limit immediately upon written notification by EPA. Except as provided in Paragraph 9.e of Consent Decree Civil Action No. 14-707-BAJ-SCR, this emission limit shall not be relaxed.

e. No later than February 26, 2015, the sulfuric acid mist emissions from each of Sulfuric Acid Plants Nos. 5, 6, and 7 **(ID Nos. S-5, S-6, and S-7)** shall not exceed 0.15 lb/ton of 100 percent sulfuric acid produced.

f. The emission limits in Section 2.4 A.1.b through A.1.e, above, shall never be relaxed, even after termination of the consent decree.

Compliance Deadlines [15A NCAC 02Q .0508(i)(16)]

g. By no later than the applicable compliance deadline specified below, the Permittee shall comply with the SO_2 limits in Section 2.4 A.1.b through A.1.d, above.
   i. The compliance deadline for Sulfuric Acid Plant No. 5 **(ID No. S-5)** is January 1, 2020.
   ii. The compliance deadline for Sulfuric Acid Plant No. 6 **(ID No. S-6)** is January 1, 2018.
   iii. Except as provided in Paragraph 9.e of Consent Decree Civil Action No. 14-707-BAJ-SCR, the compliance deadline for Sulfuric Acid Plant No. 7 **(ID No. S-7)** is January 1, 2019.

Startup, Shutdown, and Malfunction [15A NCAC 02Q .0508(i)(16)]

h. The short-term sulfur dioxide emission limits in Section 2.4 A.1.b, A.1.c, and A.1.d, above, do not apply during periods of startup, shutdown, or malfunction.

i. The long-term sulfur dioxide emission limits in Section 2.4 A.1.b, A.1.c, and A.1.d, above, apply at all times, including during periods of startup, shutdown, or malfunction.

Testing [15A NCAC 02Q .0508(i)(16)]

j. By no later than the compliance deadlines specified in Section 2.4 A.1.g, above, the Permittee shall conduct performance tests at each sulfuric acid plant **(ID Nos. S-5, S-6, and S-7)**. The Permittee shall perform such testing in accordance with the following:
   i. The Permittee shall provide notice to EPA no later than 30 days prior to the performance test of its intent to conduct such testing. If a performance test must be rescheduled, notice of the rescheduled performance test may be given less than 30 days, but in no case, less than 7 days in advance of it. This notification must include the schedule date of the test(s), an emission test protocol, a description of the planned operating rate and operating conditions, and the procedures that will be used to measure 100% sulfuric acid production.

ii. The Permittee shall conduct SO_2 emissions tests in accordance with the applicable requirements of 40 CFR Part 60 Appendix A, Reference Method 8 and Part 60, Appendix B, Performance Specification 2. The test shall consist of at least nine reference method test runs and may serve as the SO_2 CEMS relative accuracy test required under Performance Specification 2.
iii. The Permittee shall conduct sulfuric acid mist emissions tests in accordance with the applicable requirements of 40 CFR Part 60 Appendix A Reference Method 8, or an alternative method approved by EPA. These performance tests may serve as the NSPS performance test required under 40 CFR 60.8 and in Section 2.1.1 A.3.f, above.
iv. The Permittee shall take all steps necessary to obtain accurate measurements of the 100 percent sulfuric acid produced during each test run.

Emissions Monitoring [15A NCAC 02Q .0508(i)(16)]

k. After the compliance dates listed in Section 2.4 A.1.g, above, the Permittee shall conduct a Relative Accuracy Test Audit (RATA) at least once every four calendar quarters at each of the Sulfuric Acid Plants No. 5, No. 6, and No. 7 **(ID Nos. S-5, S-6, and No. 7)** per the procedures of 40 CFR 60.85 for sulfur dioxide and oxygen concentrations and pounds sulfur dioxide per ton of 100 percent sulfuric acid produced as required by 40 CFR Part 60 Appendix F, Procedure 1, 5.1.1.
l. Beginning with the initial RATA as required by Section 2.4 A.1.k, above, and thereafter for every triennial RATA (i.e., year 1, 4, 7, etc.), the Permittee shall utilize the reference methods and procedures specified in 40 CFR 60.85(b) to generate the Reference Method values for calculating the relative accuracy. In intervening years (i.e., year 2, 3, 5, 6, etc.) the Permittee may use the alternative method specified in 40 CFR 60.85(c) to calculate the Reference Method values.
m. By no later than the compliance deadlines listed in Section 2.4 A.1.g, above, the Permittee shall monitor sulfur dioxide emissions from each of the sulfuric acid plants **(ID Nos. S-5, S-6, and S-7)**, in accordance with the SO_2 CEMS Plan (see Attachment 2 of this permit) and following procedures:
    i. The Permittee shall measure the sulfur dioxide concentration (lb/DSCF or ppmvd) and oxygen concentration (percent by volume) at the exit stack at least once every 15 minutes using a sulfur dioxide analyzer and oxygen analyzer.
    ii. During routine calibration checks and adjustments of any analyzer, the pre-calibration level shall be used to fill in any analyzer data gaps that occur pending completion of the calibration checks and adjustments.
    iii. If any one or more than one analyzer is/are not operating, a like-kind replacement (i.e., a redundant analyzer) may be used as a substitute.
    iv. If any one or more than one analyzer is/are not operating for a period of 24 hours or greater and no redundant analyzer is available, data gaps in the array involving the non-operational analyzer(s) shall be filled is as follows:
        (A) Exit stack gas shall be sampled and analyzed for sulfur dioxide at least once every three hours, while the relevant sulfuric acid plant is operating. Sampling shall be conducted by Reich test or other established method (e.g., portable analyzer). The most recent 3-hour average reading shall be substituted for the four 15-minute average measurements that would otherwise be utilized if the analyzer were operating normally.
        (B) Oxygen in the exit stack gas shall be sampled and analyzed at least once every three hours, while the relevant sulfuric acid plant is operating. Sampling shall be conducted by Orsat test or other method (e.g., portable analyzer). The most recent 3-hour average reading shall be substituted for the four 15-minute average measurements that would otherwise be utilized if the analyzer were operating normally.
    v. The sulfur dioxide analyzers and oxygen analyzers shall meet the specifications of Table 1 in Attachment 2.
n. If any one or more than one analyzer is/are not operating for a period of less than 24 hours, the Permittee shall either:
    i. Follow the requirements set forth for a 24-hour or greater period of downtime to fill in the data gaps; or
    ii. Use the data recorded for the 3-hour average immediately preceding the affected analyzer's(s') stoppage to fill in the data gap.
o. The 15-minute analyzer data shall be used to determine the 3-hour rolling averages and 365-day rolling averages per Attachment 2 of this permit to demonstration compliance with the short-term and long-term sulfur dioxide limits. All calculations associated with these rolling averages shall be rounded using procedures specified in Attachment 2.
p. The sulfur dioxide emission rate (lb/ton) shall be calculated using the data collected per Section 2.4 A.1.m and the following equations:

$$E_{\frac{lb}{ton}} = \frac{C_S \times S}{(0.264 - 0.0126 \times \%O_2 - 7.61 \times C_S)}$$

$$M_{SO_2Stack} = E_{\frac{lb}{ton}} \times P_{H_2SO_4}$$

Where:

$P_{H_2SO_4}$	= 100% sulfuric acid production, tons per unit of time
M_{SO_2Stack}	= Mass SO_2 stack emission rate, lb per unit of time
$\%O_2$	= Stack O_2 concentration, percent by volume dry basis
C_S	= Stack SO_2 concentration, lb/DSCF (to convert to parts per million by volume, dry basis (ppmvd) to lb/DSCF, multiple by 1.661×10^{-7})
$E_{\frac{lb}{ton}}$	= lb SO_2 per ton 100% sulfuric acid produced
S	= the acid production rate factor, 11,800 DSCF/Ton of 100% sulfuric acid

Recordkeeping

q. The Permittee shall retain, and instruct its contractors and agents to preserve, all data generated by its sulfur dioxide analyzers, oxygen analyzers, and production rate analyzers including all data generated during startup, shutdown, and/or malfunction for five years after the termination of the Consent Decree. At the conclusion of the information-retention period, the Permittee shall notify the EPA at least 90 days prior to the destruction of any documents, records, or other information subject to these requirements.

2.5 Permit Shield for Non-applicable Requirements

The Permittee is shielded from the following non applicable requirement:

A. 15A NCAC 02D .0530 - Pursuant to 40 CFR 51.166(b)(2)(iii)(a), the X07 Superheater replacement project does not constitute a "physical change or change in the method of operation," and is not subject to review under the PSD program. This determination was based on information furnished with Applicability Determination No. 1976 (Dated **May 1, 2012**). [15A NCAC 02Q .0512(a)(1)(B)]

B. 40 CFR Part 63 Subpart YY - Maximum Achievable Control Technology, for "NESHAP for Source Categories: Generic Maximum Achievable Control Technology Standards," 40 CFR Part 63 Subpart YY, is applicable to hydrogen fluoride (HF) Production in which HF is produced by reacting calcium fluoride with sulfuric acid. Because the Permittee produces HF by reacting hydrofluorosilicic acid (a byproduct of phosphoric acid manufacturing) with sulfuric acid, the DAQ has determined 40 CFR Part 63 Subpart YY is not applicable to the HF Production Process **(ID Nos. GW01, GW03-A, GW03-B, LS-1, LB-1, and CT444**). [40 CFR 63.1100(a) and 40 CFR 63.1103(c)(2)]

C. 40 CFR Part 63 Subpart AA – The "NESHAP from Phosphoric Acid Manufacturing Plants," 40 CFR Part 63 Subpart AA was revised on August 19, 2015 in conjunction with the residual risk and technology review. As part of the revisions, the definition of the "phosphoric acid manufacturing plant" in the rule was clarified to indicate only rock dryers associated with phosphoric acid manufacturing are subject to MACT Subpart AA. Pursuant to 40 CFR 63.600, the phosphate rock dryer **(ID No. 332-120)** is not subject to MACT Subpart AA because it is not used in the phosphoric acid manufacturing process at the facility. [40 CFR 63.600 and 40 CFR 63.601)]

SECTION 3 - INSIGNIFICANT ACTIVITIES PER 15A NCAC 02Q .0503(8)

Emission Source ID No.	Emission Source Description[1, 2]
I-T30	Non-organic liquid storage tank – unstripped high alkali acid
I-T50	Non-organic liquid storage tank – unstripped fertiziler grade acid
I-T1030	Non-organic liquid storage tank – unstripped high alkali acid
I-T1050	Non-organic liquid storage tank – unstripped fertilizer grade acid
I-15	Lime hopper
I-T560	DAB hold tank
I-T554	PhosBrite hold tank (PAP)
I-T552	Phosphoric acid storage tank (PAP)
I-T550	Phosphoric acid storage tank (PAP)
I-T100	Five (5) sulfuric acid product storage tanks
I-150	Three (3) sulfur pits
I-930-931	Gypsum Stack No. 1
I-932-944	Gypsum Stack No. 2
I-955-956	Gypsum Stack No. 4
I-945-953	Gypsum Stack No. 5
I-954	Gypsum Stack No. 6
I-10	Phosphoric acid storage
I-9	ULSD storage tank
I-8	Coal storage silo
I-7	Coal mill
I-6	Coal transfer conveyor
I-5	Coal unloading conveyor
I-4	54% phosphoric acid storage tank
I-3	Bright dip pilot line
I-2	2 conveyors for Moroccan ore – temporary
I-1	60 tph crusher
ISAPCT	Sulfuric acid plant cooling towers
I-MILL	Milling operations
I-BAG	Bagging and tote filling operations
I-999	Mining operation fugitives
I-APPCOOLTOWER	Cooling tower for APP production, ep393
I-AHF **MACT ZZZZ** **NSPS IIII**	AHF plant diesel-fired emergency genset (up to 250 ekW)
IT-4108	Storage containment tank
I-R1 to I-R14 **NESHAP (61-R)**	Reclaim areas 1 to 14, ep960 through ep973

Emission Source ID No.	Emission Source Description[1, 2]
I-130-458 **MACT ZZZZ**	Diesel-fired emergency engine for backup power at wastewater treatment plant (107 bhp; 80 kW)
I-130-457 **MACT ZZZZ**	Diesel-fired emergency engine for backup power at main lift station pumps (40 bhp; 30 kW)
I-624-231-484 **MACT ZZZZ**	Diesel-fired fire pump engine – PAP plant (375 bhp; 280 kW)
I-624-293-484 **MACT ZZZZ**	Diesel-fired fire pump engine – PAP plant (53 bhp; 40 kW)
I-555-218-484 **MACT ZZZZ** **NSPS IIII**	Diesel-fired emergency engine for ammonia emergency deluge system (227 bhp; 170 kW)
I-190-400-484 **MACT ZZZZ** **NSPS JJJJ**	LPG-fired 4SRB emergency engine for backup power at radio tower (94 bhp; 70kW)
I-407-401 **MACT ZZZZ** **NSPS JJJJ**	LPG-fired 4SRB emergency engine for backup power for the No. 7 Sulfuric Acid Plant turbine lube oil pump (45 bhp; 25kW)
I-HSU-1 and I-HSU-2	Two horizontal lime slaker units
I-Belt41 to Belt39*	Calcined/dried rock CTS with enclosure
I-Belt27 to Belt41*	Calcined/dried rock CTS with enclosure
I-Belt39 to Belt70.1*	Calcined rock CTS with enclosed transfer point
I-339-809-464*	Calcined/dried rock CTS with enclosures
I-453-485, I-453-489, I-453-490	Additive storage silo, No. 1 additive weigh feed hopper, and No. 2 additive weigh feed hopper controlled with a common bagfilter (ep340)
I-426-244	Additive weigh feed hopper controlled via a fabric filter (ep496)
I-SAL	Sulfuric acid loading station for railcars and trucks

[1] Because an activity is insignificant does not mean that the activity is exempted from an applicable requirement (Federal or State) or that the Permittee is exempted from demonstrating compliance with any applicable requirement.

[2] When applicable, emissions from stationary source activities identified above shall be included in determining compliance with the permit requirements for toxic air pollutants under 15A NCAC 02D .1100 "Control of Toxic Air Pollutants" or 02Q .0711 "Emission Rates Requiring a Permit."

* These sources are contained within metal transfer housing, and no emissions are expected from these activities.

SECTION 4 - GENERAL CONDITIONS (version 6.0, 01/07/2022)

This section describes terms and conditions applicable to this Title V facility.

A. **General Provisions** [NCGS 143-215 and 15A NCAC 02Q .0508(i)(16)]
1. Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in 15A NCAC 02D and 02Q.
2. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to NCGS 143-215.114A and 143-215.114B, including assessment of civil and/or criminal penalties. Any unauthorized deviation from the conditions of this permit may constitute grounds for revocation and/or enforcement action by the DAQ.
3. This permit is not a waiver of or approval of any other Department permits that may be required for other aspects of the facility which are not addressed in this permit.
4. This permit does not relieve the Permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted facility, or from penalties therefore, nor does it allow the Permittee to cause pollution in contravention of state laws or rules, unless specifically authorized by an order from the North Carolina Environmental Management Commission.
5. Except as identified as state-only requirements in this permit, all terms and conditions contained herein shall be enforceable by the DAQ, the EPA, and citizens of the United States as defined in the Federal Clean Air Act.
6. Any stationary source of air pollution shall not be operated, maintained, or modified without the appropriate and valid permits issued by the DAQ, unless the source is exempted by rule. The DAQ may issue a permit only after it receives reasonable assurance that the installation will not cause air pollution in violation of any of the applicable requirements. A permitted installation may only be operated, maintained, constructed, expanded, or modified in a manner that is consistent with the terms of this permit.

B. **Permit Availability** [15A NCAC 02Q .0507(k) and .0508(i)(9)(B)]
The Permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application(s) and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of Department of Environmental Quality upon request.

C. **Severability Clause** [15A NCAC 02Q .0508(i)(2)]
In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to be invalid, shall remain valid and must be complied with.

D. **Submissions** [15A NCAC 02Q .0507(e) and 02Q .0508(i)(16)]
Except as otherwise specified herein, two copies of all documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required by this permit shall be submitted to the appropriate Regional Office. Refer to the Regional Office address on the cover page of this permit. For continuous emissions monitoring systems (CEMS) reports, continuous opacity monitoring systems (COMS) reports, quality assurance (QA)/quality control (QC) reports, acid rain CEM certification reports, and NOx budget CEM certification reports, one copy shall be sent to the appropriate Regional Office and one copy shall be sent to:

Supervisor, Stationary Source Compliance
North Carolina Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641

All submittals shall include the facility name and Facility ID number (refer to the cover page of this permit).

E. **Duty to Comply** [15A NCAC 02Q .0508(i)(3)]
The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition except conditions identified as state-only requirements constitutes a violation of the Federal Clean Air Act. Noncompliance with any permit condition is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

F. **Circumvention** - STATE ENFORCEABLE ONLY
The facility shall be properly operated and maintained at all times in a manner that will effect an overall reduction in air pollution. Unless otherwise specified by this permit, no emission source may be operated without the concurrent operation of its associated air pollution control device(s) and appurtenances.

G. **Title V Permit Modifications**
1. Administrative Permit Amendments [15A NCAC 02Q .0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with 15A NCAC 02Q .0514.
2. Transfer in Ownership or Operation and Application Submittal Content [15A NCAC 02Q .0524 and 02Q .0505]
The Permittee shall submit an application for an ownership change in accordance with 15A NCAC 02Q.0524 and 02Q .0505.
3. Minor Permit Modifications [15A NCAC 02Q .0515]
The Permittee shall submit an application for a minor permit modification in accordance with 15A NCAC 02Q .0515.
4. Significant Permit Modifications [15A NCAC 02Q .0516]
The Permittee shall submit an application for a significant permit modification in accordance with 15A NCAC 02Q .0516.
5. Reopening for Cause [15A NCAC 02Q .0517]
The Permittee shall submit an application for reopening for cause in accordance with 15A NCAC 02Q .0517.

H. **Changes Not Requiring Permit Modifications**
1. Reporting Requirements [15A NCAC 02Q .0508(f)]
Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the Regional Supervisor, DAQ:
   a. changes in the information submitted in the application;
   b. changes that modify equipment or processes; or
   c. changes in the quantity or quality of materials processed.

   If appropriate, modifications to the permit may then be made by the DAQ to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.
2. Section 502(b)(10) Changes [15A NCAC 02Q .0523(a)]
   a. "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
   b. The Permittee may make Section 502(b)(10) changes without having the permit revised if:
      i. the changes are not a modification under Title I of the Federal Clean Air Act;
      ii. the changes do not cause the allowable emissions under the permit to be exceeded;
      iii. the Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and
      iv. the Permittee shall attach the notice to the relevant permit.
   c. The written notification shall include:
      i. a description of the change;
      ii. the date on which the change will occur;
      iii. any change in emissions; and
      iv. any permit term or condition that is no longer applicable as a result of the change.
   d. Section 502(b)(10) changes shall be made in the permit the next time that the permit is revised or renewed, whichever comes first.
3. Off Permit Changes [15A NCAC 02Q .0523(b)]
The Permittee may make changes in the operation or emissions without revising the permit if:
   a. the change affects only insignificant activities and the activities remain insignificant after the change; or
   b. the change is not covered under any applicable requirement.
4. Emissions Trading [15A NCAC 02Q .0523(c)]
To the extent that emissions trading is allowed under 15A NCAC 02D, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to 15A NCAC 02Q .0523(c).

I.A **Reporting Requirements for Excess Emissions** [15A NCAC 02D .0535(f) and 02Q .0508(f)(2)]

1. "Excess Emissions" - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of Subchapter 02D; or by a permit condition; or that exceeds an emission limit established in a permit issued under 15A NCAC 02Q .0700. *(Note: Definitions of excess emissions under 02D .1110 and 02D .1111 shall apply where defined by rule.)*
2. If a source is required to report excess emissions under NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.
3. If the source is not subject to NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with 15A NCAC 02D .0535 as follows:
   a. Pursuant to 15A NCAC 02D .0535, if excess emissions last for more than four hours resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:
      i. notify the Regional Supervisor or Director of any such occurrence by 9:00 a.m. Eastern Time of the Division's next business day of becoming aware of the occurrence and provide:
         - name and location of the facility;
         - nature and cause of the malfunction or breakdown;
         - time when the malfunction or breakdown is first observed;
         - expected duration; and
         - estimated rate of emissions;
      ii. notify the Regional Supervisor or Director immediately when corrective measures have been accomplished; and
      iii. submit to the Regional Supervisor or Director within 15 days a written report as described in 15A NCAC 02D .0535(f)(3).

I.B **Reporting Requirements for Permit Deviations** [15A NCAC 02D .0535(f) and 02Q .0508(f)(2)]

1. "Permit Deviations" - for the purposes of this condition, any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions as well as excess emissions as defined above lasting less than four hours.
2. Pursuant to 15A NCAC 02Q .0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) quarterly by notifying the Regional Supervisor or Director of all other deviations from permit requirements not covered under 15A NCAC 02D .0535. A written report to the Regional Supervisor shall include the probable cause of such deviation and any corrective actions or preventative actions taken. The responsible official shall certify all deviations from permit requirements.

I.C **Other Requirements under 15A NCAC 02D .0535**

The Permittee shall comply with all other applicable requirements contained in 15A NCAC 02D .0535, including 15A NCAC 02D .0535(c) as follows:

1. Any excess emissions that do not occur during start-up and shut-down shall be considered a violation of the appropriate rule unless the owner or operator of the sources demonstrates to the Director that the excess emissions are a result of a malfunction. The Director shall consider, along with any other pertinent information, the criteria contained in 15A NCAC 02D .0535(c)(1) through (7).
2. 15A NCAC 02D .0535(g). Excess emissions during start-up and shut-down shall be considered a violation of the appropriate rule if the owner or operator cannot demonstrate that excess emissions are unavoidable.

J. **Emergency Provisions** [40 CFR 70.6(g)]

The Permittee shall be subject to the following provisions with respect to emergencies:

1. An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility 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 preventive maintenance, careless or improper operation, or operator error.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in 3. below are met.
3. The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that include information as follows:
   a. an emergency occurred and 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 standards or other requirements in the permit; and
d. the Permittee submitted notice of the emergency to the DAQ within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.

4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

K. **Permit Renewal** [15A NCAC 02Q .0508(e) and 02Q .0513(b)]
This 15A NCAC 02Q .0500 permit is issued for a fixed term not to exceed five years and shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete 15A NCAC 02Q .0500 renewal application is submitted at least six months before the date of permit expiration. If the Permittee or applicant has complied with 15A NCAC 02Q .0512(b)(1), this 15A NCAC 02Q .0500 permit shall not expire until the renewal permit has been issued or denied. Permit expiration under 15A NCAC 02Q .0400 terminates the facility's right to operate unless a complete 15A NCAC 02Q .0400 renewal application is submitted at least six months before the date of permit expiration for facilities subject to 15A NCAC 02Q .0400 requirements. In either of these events, all terms and conditions of these permits shall remain in effect until the renewal permits have been issued or denied.

L. **Need to Halt or Reduce Activity Not a Defense** [15A NCAC 02Q .0508(i)(4)]
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.

M. **Duty to Provide Information (submittal of information)** [15A NCAC 02Q .0508(i)(9)]
1. The Permittee shall furnish to the DAQ, in a timely manner, any reasonable information that the Director 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.
2. The Permittee shall furnish the DAQ copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

N. **Duty to Supplement** [15A NCAC 02Q .0507(f)]
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 to the DAQ. The Permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.

O. **Retention of Records** [15A NCAC 02Q .0508(f) and 02Q .0508(l)]
The Permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring information, and copies of all reports required by the permit. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. Any records required by the conditions of this permit shall be kept on site and made available to DAQ personnel for inspection upon request.

P. **Compliance Certification** [15A NCAC 02Q .0508(n)]
The Permittee shall submit to the DAQ and the EPA (Air Enforcement Branch, EPA, Region 4, 61 Forsyth Street SW, Atlanta, GA 30303 or through the EPA CEDRI) postmarked on or before March 1 a compliance certification (for the preceding calendar year) by a responsible official with all terms and conditions in the permit (including emissions limitations, standards, or work practices), except for conditions identified as being State-enforceable Only. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:
1. the identification of each term or condition of the permit that is the basis of the certification;
2. the compliance status (with the terms and conditions of the permit for the period covered by the certification);
3. whether compliance was continuous or intermittent;
4. the method(s) used for determining the compliance status of the source during the certification period;

5. each deviation and take it into account in the compliance certification; and
6. as possible exceptions to compliance, any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 (CAM) occurred.

Q. **Certification by Responsible Official** [15A NCAC 02Q .0520]
A responsible official shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

R. **Permit Shield for Applicable Requirements** [15A NCAC 02Q .0512]
1. Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.
2. A permit shield shall not alter or affect:
   a. the power of the Commission, Secretary of the Department, or Governor under NCGS 143-215.3(a)(12), or EPA under Section 303 of the Federal Clean Air Act;
   b. the liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;
   c. the applicable requirements under Title IV; or
   d. the ability of the Director or the EPA under Section 114 of the Federal Clean Air Act to obtain information to determine compliance of the facility with its permit.
3. A permit shield does not apply to any change made at a facility that does not require a permit or permit revision made under 15A NCAC 02Q .0523.
4. A permit shield does not extend to minor permit modifications made under 15A NCAC 02Q .0515.

S. **Termination, Modification, and Revocation of the Permit** [15A NCAC 02Q .0519]
The Director may terminate, modify, or revoke and reissue this permit if:
1. the information contained in the application or presented in support thereof is determined to be incorrect;
2. the conditions under which the permit or permit renewal was granted have changed;
3. violations of conditions contained in the permit have occurred;
4. the EPA requests that the permit be revoked under 40 CFR 70.7(g) or 70.8(d); or
5. the Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of NCGS Chapter 143, Article 21B.

T. **Insignificant Activities** [15A NCAC 02Q .0503]
Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The Permittee shall have available at the facility at all times and made available to an authorized representative upon request, documentation, including calculations, if necessary, to demonstrate that an emission source or activity is insignificant.

U. **Property Rights** [15A NCAC 02Q .0508(i)(8)]
This permit does not convey any property rights in either real or personal property or any exclusive privileges.

V. **Inspection and Entry** [15A NCAC 02Q .0508(l) and NCGS 143-215.3(a)(2)]
1. Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow the DAQ, or an authorized representative, to perform the following:
   a. enter the Permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;
   b. have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
   c. inspect at reasonable times and using reasonable safety practices any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
   d. sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.

   Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.

2. No person shall refuse entry or access to any authorized representative of the DAQ who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

W. **Annual Fee Payment** [15A NCAC 02Q .0508(i)(10)]
1. The Permittee shall pay all fees in accordance with 15A NCAC 02Q .0200.
2. Payment of fees may be by check or money order made payable to the N.C. Department of Environmental Quality. Annual permit fee payments shall refer to the permit number.
3. If, within 30 days after being billed, the Permittee fails to pay an annual fee, the Director may initiate action to terminate the permit under 15A NCAC 02Q .0519.

X. **Annual Emission Inventory Requirements** [15A NCAC 02Q .0207]
The Permittee shall report by **June 30 of each year** the actual emissions of each air pollutant listed in 15A NCAC 02Q .0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such form as may be established by the Director. The accuracy of the report shall be certified by a responsible official of the facility.

Y. **Confidential Information** [15A NCAC 02Q .0107 and 02Q .0508(i)(9)]
Whenever the Permittee submits information under a claim of confidentiality pursuant to 15A NCAC 02Q .0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with 15A NCAC 02Q .0107.

Z. **Construction and Operation Permits** [15A NCAC 02Q .0100 and .0300]
A construction and operating permit shall be obtained by the Permittee for any proposed new or modified facility or emission source which is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of 15A NCAC 02Q .0100 and .0300.

AA. **Standard Application Form and Required Information** [15A NCAC 02Q .0505 and .0507]
The Permittee shall submit applications and required information in accordance with the provisions of 15A NCAC 02Q .0505 and .0507.

BB. **Financial Responsibility and Compliance History [**15A NCAC 02Q .0507(d)(3)]
The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

CC. **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [15A NCAC 02Q .0501(d)]
1. If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82 Subpart A Appendices A and B, the Permittee shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82 Subpart F.
2. The Permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device except as provided in 40 CFR Part 82 Subpart F.
3. The Permittee shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the EPA or its designee as required.

DD. **Prevention of Accidental Releases - Section 112(r)** [15A NCAC 02Q .0508(h)]
If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.

EE. **National Emission Standards Asbestos – 40 CFR Part 61, Subpart M** [15A NCAC 02D .1110]
The Permittee shall comply with all applicable standards for demolition and renovation activities pursuant to the requirements of 40 CFR Part 61, Subpart M. The permittee shall not be required to obtain a modification of this permit in order to perform the referenced activities.

FF. **Title IV Allowances** [15A NCAC 02Q .0508(i)(1)]
This permit does not limit the number of Title IV allowances held by the Permittee, but the Permittee may not use allowances as a defense to noncompliance with any other applicable requirement. The Permittee's emissions may not exceed any allowances that the facility lawfully holds under Title IV of the Federal Clean Air Act.

GG. **Air Pollution Emergency Episode** [15A NCAC 02D .0300]
Should the Director of the DAQ declare an Air Pollution Emergency Episode, the Permittee will be required to operate in accordance with the Permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in 15A NCAC 02D .0300.

HH. **Registration of Air Pollution Sources** [15A NCAC 02D .0202]
The Director of the DAQ may require the Permittee to register a source of air pollution. If the Permittee is required to register a source of air pollution, this registration and required information will be in accordance with 15A NCAC 02D .0202(b).

II. **Ambient Air Quality Standards** [15A NCAC 02D .0501(c)]
In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in 15A NCAC 02D .0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

JJ. **General Emissions Testing and Reporting Requirements** [15A NCAC 02Q .0508(i)(16)]
Emission compliance testing shall be by the procedures of Section .2600, except as may be otherwise required in Rules .0524, .1110, or .1111 of Subchapter 02D. If emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance for emission sources subject to Rules .0524, .1110, or .1111, the Permittee shall provide and submit all notifications, conduct all testing, and submit all test reports in accordance with the requirements of 15A NCAC 02D .0524, .1110, or .1111, as applicable. Otherwise, if emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 02D .2600 and follow the procedures outlined below:

1. The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least **45 days** before conducting the test.
2. Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least **15 days** before beginning the test so that the Director may at his option observe the test.
3. The owner or operator of the source shall arrange for controlling and measuring the production rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.
4. Two copies of the final air emission test report shall be submitted to the Director not later than **30 days** after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.
    a. The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:
        i. Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.
        ii. Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.
        iii. Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in 15A NCAC 02D .2600 if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
    b. The Director may authorize the DAQ to conduct independent tests of any source subject to a rule in 15A NCAC 02D to determine the compliance status of that source or to verify any test data submitted relating to that source.

Any test conducted by the Division of Air Quality using the appropriate testing procedures described in 15A NCAC 02D .2600 has precedence over all other tests.

KK. **Reopening for Cause** [15A NCAC 02Q .0517]

1. A permit shall be reopened and revised under the following circumstances:
   a. additional applicable requirements become applicable to a facility with remaining permit term of three or more years;
   b. additional requirements (including excess emission requirements) become applicable to a source covered by Title IV;
   c. the Director or EPA finds 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; or
   d. the Director or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
2. Any permit reopening shall be completed or a revised permit issued within 18 months after the applicable requirement is promulgated. No reopening is required if the effective date of the requirement is after the expiration of the permit term unless the term of the permit was extended pursuant to 15A NCAC 02Q .0513(c).
3. Except for the state-enforceable only portion of the permit, the procedures set out in 15A NCAC 02Q .0507, .0521, or .0522 shall be followed to reissue the permit. If the State-enforceable only portion of the permit is reopened, the procedures in 15A NCAC 02Q .0300 shall be followed. The proceedings shall affect only those parts of the permit for which cause to reopen exists.
4. The Director shall notify the Permittee at least 60 days in advance of the date that the permit is to be reopened, except in cases of imminent threat to public health or safety the notification period may be less than 60 days.
5. Within 90 days, or 180 days if the EPA extends the response period, after receiving notification from the EPA that a permit needs to be terminated, modified, or revoked and reissued, the Director shall send to the EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate.

LL. **Reporting Requirements for Non-Operating Equipment** [15A NCAC 02Q .0508(i)(16)]

The Permittee shall maintain a record of operation for permitted equipment noting whenever the equipment is taken from and placed into operation. When permitted equipment is not in operation, the requirements for testing, monitoring, and recordkeeping are suspended until operation resumes.

MM. **Fugitive Dust Control Requirement** [15A NCAC 02D .0540]

As required by 15A NCAC 02D .0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 02D .0540(f).

"Fugitive dust emissions" means particulate matter from process operations that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as: unloading and loading areas, process areas, stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).

NN. **Specific Permit Modifications** [15A NCAC 02Q .0501 and .0523]

1. For modifications made pursuant to 15A NCAC 02Q .0501(b)(2), the Permittee shall file a Title V Air Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.
2. For modifications made pursuant to 15A NCAC 02Q .0501(c)(2), the Permittee shall not begin operation of the air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is filed and a construction and operation permit following the procedures of Section .0500 (except for Rule .0504 of this Section) is obtained.
3. For modifications made pursuant to 502(b)(10), in accordance with 15A NCAC 02Q .0523(a)(1)(C), the Permittee shall notify the Director and EPA (Air Permitting Branch, EPA, Region 4, 61 Forsyth Street SW, Atlanta, GA 30303 or through the EPA CEDRI) in writing at least seven days before the change is made.
   a. The written notification shall include:
      i. a description of the change at the facility;
      ii. the date on which the change will occur;
      iii. any change in emissions; and
      iv. any permit term or condition that is no longer applicable as a result of the change.

b. In addition to this notification requirement, with the next significant modification or Air Quality Permit renewal, the Permittee shall submit a page "E5" of the application forms signed by the responsible official verifying that the application for the 502(b)(10) change/modification, is true, accurate, and complete. Further note that modifications made pursuant to 502(b)(10) do not relieve the Permittee from satisfying preconstruction requirements.

OO. **Third Party Participation and EPA Review** [15A NCAC 02Q .0521, .0522 and .0525(7)]
For permits modifications subject to 45-day review by the federal EPA, EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 02Q .0518 begins at the end of the 45-day EPA review period.

Attachment 1
Allowable Toxic Air Pollutant Emission Rates

Source Name (Source Number)	Ammonia (lb/hr)	Arsenic (lb/yr)	Benzene (lb/yr)	Beryllium (lb/yr)	Cadmium (lb/yr)	Carbon Disulfide (lb/day)	Chromium VI (lb/day)	Fluoride (no HF) (lb/hr)	Fluoride (no HF) (lb/day)	Formaldehyde (lb/hr)	Hydrogen Chloride (lb/hr)	Hydrogen Fluoride (lb/hr)	Hydrogen Fluoride (lb/day)	Hydrogen Sulfide (lb/hr)	Manganese (lb/day)	Mercury (lb/day)	MIBK (lb/hr)	MIBK (lb/day)	Nickel (lb/day)	Sulfuric Acid (lb/hr)	Sulfuric Acid (lb/day)
SA Plant #5 (103)		2.74E-01		9.91E-01	2.04E-01		1.19E-04			9.79E+01					1.06E+01	1.09E-01			3.49E-01	1.65E+01	3.96E+02
SA Plant # 6 (104)		2.74E-01		9.91E-01	2.04E-01		1.19E-04			9.79E+01					1.06E+01	1.09E-01			3.49E-01	1.74E+01	4.18E+02
SA Plant #7 (105)		2.74E-01		9.91E-01	2.04E-01		1.19E-04			9.79E+01					1.06E+01	1.09E-01			3.49E-01	1.69E+01	4.05E+02
SA Plant #5 fugitives (192)																				2.40E-03	6.26E-02
SA Plant #6 fugitives (193)																				2.40E-03	6.26E-02
SA Plant #7 fugitives (194)																				2.40E-03	6.26E-02
Rock Dryer (210)		3.13E+00	4.59E+01	1.05E+02	1.47E+01		1.30E+01	1.67E-01	4.01E+00	2.32E+00		2.17E-02	5.22E-01		3.30E+02	3.72E-03			2.41E+01	3.31E-01	8.33E+00
Coal Pulverizer/Dryer (215)		1.96E-02	1.87E+01	1.22E-02	6.66E-01	3.03E+00	2.90E-04	7.38E-04	1.77E-02	3.92E-02	2.51E-01	1.03E-03	2.47E-02		3.75E-02	4.55E-02			8.46E-03	5.37E-03	7.47E-02
Storage Silo Baghouses (222)		2.59E-01		1.05E-01	3.02E-01			9.36E-03	2.25E-01						1.07E-01	4.14E-06			8.79E-03		
Calcine CTS (221)		3.54E-01		1.44E-01	4.13E-01			1.28E-02	3.07E-01						1.46E-01	5.66E-06			1.20E-02		
Calcined/dried rock CTS (227)		1.79E+00		8.80E-01	3.19E+00			8.17E-02	1.96E+00						5.95E-01	3.67E-05			7.29E-02		
Mill Concentrator Fugitives (290)								8.70E-04	2.09E-02			6.53E-03	1.57E-01	1.00E+01							
Fugitives from Calciner (291)		6.00E-01		2.78E-01	7.96E-01			2.46E-02	5.92E-01						2.82E-01	1.09E-05			2.31E-02		
APP Plant Line 1 (304)	7.90E-01							5.15E-02	1.24E+00			4.93E-02	1.18E+00								
No. 2 and No. 3 Filter Presses (305)								3.17E-02	7.61E-01			3.04E-02	7.30E-01								
APP Plant Line 2 (306)	7.90E-01							5.15E-02	1.24E+00			4.93E-02	1.18E+00								
Pilot Plant #2 (316)								1.80E-03	4.32E-02			7.00E-04	1.68E-02	1.00E+01							
Tech Services Pilot Plant (317)	6.25E-02																				
Tech Services Pilot Plant Baghouse (318)		4.71E-01		2.18E-01	6.24E-01			1.93E-02	4.64E-01						2.21E-01	8.56E-06			1.82E-02		
SPA Filter Press No. 1 (335)								7.87E-04	1.89E-02			7.52E-04	1.81E-02								
Repulp Tank #2/#3 (336)								7.87E-04	1.89E-02			7.53E-04	1.81E-02								
Additive storage silo and No. 1 and No. 2 additive weigh feed hoppers (340)		5.31E-02		2.46E-02	7.05E-02										2.50E-02	9.66E-07			2.05E-03		
Additive Storage Silo (341)		1.50E+00		6.93E-01	1.98E+00										7.02E-01	2.72E-05			5.77E-02		
Fertilizer Warehouses Fugitives (390)	1.68E-01							3.35E-01	8.05E+00			3.23E-01	7.75E+00								
Fertilizer Plant Fugitives (391)	7.50E-02							3.35E-01	8.04E+00			2.31E-01	5.53E+00								
Fertilizer Plant Fugitives (392)	7.50E-02							3.35E-01	8.04E+00			2.31E-01	5.53E+00								
Tanks 020, 030, 031, 040 (421)								8.29E-02	1.99E+00			5.71E-02	1.37E+00								
Tanks 32-34,60 and GAST (422)								4.98E-02	1.19E+00			3.43E-02	8.24E-01								
PA Tank farm Clarifier Scrubber (423)								4.98E-02	1.19E+00			3.43E-02	8.24E-01								
PA #1 Baghouse (430)		3.42E-01		1.58E-01	4.53E-01			1.78E-02	4.27E-01						1.60E-01	6.21E-06			1.32E-02		
PA #2 Baghouse (431)		3.42E-01		1.58E-01	4.53E-01			1.78E-02	4.27E-01						1.60E-01	6.21E-06			1.32E-02		
PA Storage Silo #1 (434)		2.73E-01		1.27E-01	3.63E-01			1.46E-02	3.50E-01						1.28E-01	4.97E-06			1.05E-02		
PA Storage Silo #2 (435)		9.25E-02		8.44E-02	2.42E-01			7.49E-03	1.80E-01						8.56E-02	3.31E-06			7.03E-03		
Calcined Rock CTS Baghouse (437)		2.05E-01		9.49E-02	2.72E-01			1.10E-02	2.64E-01						9.63E-02	3.73E-06			7.91E-03		
HF loading and Storage/HF Train 1 (440)								3.35E-01	8.04E+00		5.24E+00	2.90E+00	6.95E+01								
HF loading and Storage/HF Train 2 (441)								3.35E-01	8.04E+00		5.24E+00	2.90E+00	6.95E+01								
Defluorinated Acid Scrubber Stack (450)								5.73E-03	1.38E-01			1.43E-03	3.44E-02								
Filtration Process # 1 (470)								3.03E-02	7.28E-01			1.52E-02	3.66E-01								
Filtration Process # 2 (471)								2.52E-02	6.05E-01			1.27E-02	3.04E-01								
PA Plant Fugitives (491)								1.37E-01	3.29E+00			1.26E-01	3.02E+00	1.50E+01							
PA Tank Farm Fugitives (492)								1.37E-02	3.29E-01			1.26E-02	3.02E-01	1.50E+01							
Scrubber Stack (493)								2.41E-01	5.79E+00			2.31E-01	5.54E+00								

Source Name (Source Number)	Ammonia (lb/hr)	Arsenic (lb/yr)	Benzene (lb/yr)	Beryllium (lb/yr)	Cadmium (lb/yr)	Carbon Disulfide (lb/day)	Chromium VI (lb/day)	Fluoride (no HF) (lb/hr)	Fluoride (no HF) (lb/day)	Formaldehyde (lb/hr)	Hydrogen Chloride (lb/hr)	Hydrogen Fluoride (lb/hr)	Hydrogen Fluoride (lb/day)	Hydrogen Sulfide (lb/hr)	Manganese (lb/day)	Mercury (lb/day)	MIBK (lb/hr)	MIBK (lb/day)	Nickel (lb/day)	Sulfuric Acid (lb/hr)	Sulfuric Acid (lb/day)
Filter Press No. 1 and Filter Press No. 2 building vent No. 1 (495) Filter Press No. 1 and Filter Press No. 2 building vent No. 2 (497)								2.12E-02	5.09E-01			2.04E-02	4.90E-01								
PAP Scrubber (502)		5.51E-03		4.78E-03	5.29E-02			9.52E-02	2.28E+00			9.52E-02	2.28E+00	1.00E+00	7.67E-02				9.39E-03		
PAP No. 2 Chiller Stack (503)	2.60E-05							7.77E-03	1.86E-01			7.43E-03	1.78E-01	1.00E+00			1.30E+02	1.32E+03			
PAP No. 2 Scrubber Stack (504)		5.51E-03		4.78E-03	5.29E-02			3.52E-02	8.44E-01			3.36E-02	8.07E-01	1.00E+00	7.67E-02				9.39E-03		
PAP No.2 Train No 4 Scrubber stack (506)		5.51E-03		4.78E-03	5.29E-02			3.52E-02	8.44E-01			3.36E-02	8.07E-01	1.00E+00	7.67E-02				9.39E-03		
PAP No. 1 Plant and Tank Farm Fugitives (590/591)	5.30E-02							1.58E-02	3.79E-01			1.51E-02	3.62E-01				1.33E+02	1.35E+03			
PAP No. 2 Train No. 3 Plant and Tank Farm Fugitives (592/593)	5.30E-02							1.58E-02	3.79E-01			1.51E-02	3.62E-01				1.33E+02	1.35E+03			
PAP loading no. 1 (594)								3.38E-06	8.11E-05												
PAP loading no. 2 (595)								3.38E-06	8.11E-05												
PAP loading no. 3 (596)								3.38E-06	8.11E-05												
PAP loading no. 4 (597)								3.38E-06	8.11E-05												
Ammonia Railroad Unload (601)	2.27E+00																				
Ammonia Railroad Unload (602)	2.27E+00																				
Ammonia Railroad Unload (603)	2.27E+00																				
Ammonia Storage Tanks (604)	2.50E+00																				
Ammonia Storage Tanks (605)	2.50E+00																				
Ammonia Truck Unloading (NH3TRK1)	7.25E-01																				
Ammonia Truck Unloading (NH3TRK2)	7.25E-01																				
Railcar Sulfur Unloading (610)														1.21E+00							
Railcar Sulfur Unloading (611)														1.21E+00							
Railcar Sulfur Unloading (612)														1.21E+00							
Railcar Sulfur Unloading (613)														1.21E+00							
Railcar Sulfur Unloading (614)														1.21E+00							
Railcar Wash Station No. 1 (615)								1.60E-01	3.84E+00			2.12E-02	5.09E-01								
Tank Farm Fugitives (616)	1.38E-01							1.27E-01	3.05E+00			5.96E-02	1.43E+00	1.00E+00			2.16E+02	2.19E+03			
Railcar Wash Station No. 2 (617)								1.60E-02	3.84E-01			2.12E-03	5.09E-02	1.00E+00							
Truck loading (660)								2.57E-02	6.17E-01			7.39E-03	1.77E-01								
North rail loading (661)								2.57E-02	6.17E-01			7.39E-03	1.77E-01								
Center rail loading (662)								2.57E-02	6.17E-01			7.39E-03	1.77E-01								
South rail loading (663)								8.69E-03	2.09E-01			1.01E-02	2.42E-01								
APP loading no. 1 (664)								3.38E-06	8.11E-05												
APP loading no. 2 (665)								3.38E-06	8.11E-05												
APP loading no. 3 (666)								3.38E-06	8.11E-05												
HFSA loading (667)								8.69E-03	2.09E-01			1.01E-02	2.42E-01								
Phosphoric acid rail loading station (668)								2.57E-02	6.16E-01			7.39E-03	1.77E-01								
Barge slip 1 loading (672)								4.40E-02	1.06E+00			1.27E-02	3.04E-01								
Barge slip 2 loading (673)								8.69E-03	2.09E-01			1.73E-02	4.15E-01								
Product handling (717)		7.89E-01		1.64E+00	3.27E-01			2.79E-03	6.69E-02						1.70E+01				2.77E-02		
Product loadout (718)		2.54E-01		5.28E-01	1.05E-01			8.96E-04	2.15E-02						5.46E+00				8.89E-03		
Product Shipping (754)		3.04E-01		6.34E-01	1.26E-01			1.07E-03	2.58E-02						6.56E+00				1.07E-02		
Limestone Railcar Unloading (759)		7.28E-03			1.16E-03										2.58E-01				5.23E-05		
No. 1 Limestone Silo (760)		4.96E-02			7.92E-03										1.76E+00				3.57E-04		

Source Name (Source Number)	Ammonia (lb/hr)	Arsenic (lb/yr)	Benzene (lb/yr)	Beryllium (lb/yr)	Cadmium (lb/yr)	Carbon Disulfide (lb/day)	Chromium VI (lb/day)	Fluoride (no HF) (lb/hr)	Fluoride (no HF) (lb/day)	Formaldehyde (lb/hr)	Hydrogen Chloride (lb/hr)	Hydrogen Fluoride (lb/hr)	Hydrogen Fluoride (lb/day)	Hydrogen Sulfide (lb/hr)	Manganese (lb/day)	Mercury (lb/day)	MIBK (lb/hr)	MIBK (lb/day)	Nickel (lb/day)	Sulfuric Acid (lb/hr)	Sulfuric Acid (lb/day)
No. 2 Limestone Silo (761)		4.96E-02			7.92E-03										1.76E+00				3.57E-04		
No. 3 Limestone Silo (762)		4.96E-02			7.92E-03										1.76E+00				3.57E-04		
Limestone supply weigh hopper (765)		4.90E-02			7.82E-03										1.74E+00				3.52E-04		
Dryer and delumper (774)		1.14E+01		3.79E+01	7.75E+00			7.39E-03	1.77E-01						5.05E+01	5.59E-02			2.53E-01		
Screening/conveying operations (777)		4.97E-01		1.04E+00	2.06E-01			1.76E-03	4.21E-02						1.07E+01				1.74E-02		
Final screening operations (783)		9.94E-01		2.07E+00	4.13E-01			3.51E-03	8.43E-02						2.14E+01				3.49E-02		
Mine Pit Diesel Generator (801)			8.54E+01							6.20E-01											
Mill Pond (957)								8.14E-03	1.95E-01			6.59E-02	1.58E+00								
Recycle Lake (958)								2.89E-01	6.94E+00			2.34E+00	5.62E+01								
Concentrate Pile (990)		1.53E-02		7.52E-03	2.72E-02			6.97E-04	1.67E-02						5.08E-03	3.13E-07			6.22E-04		
Bagging and tote filling operations (I-BAG)		1.87E-05		3.89E-05	7.75E-06			6.60E-08	1.58E-06						4.02E-04				6.55E-07		
Milling Operations (IMILL)								1.02E-03	2.46E-02												
54% Phosphoric Acid Storage (I4)								3.73E-04	8.95E-03			2.57E-04	6.17E-03								
Facility Total	**15.46**	**24.68**	**150.00**	**154.95**	**34.24**	**3.03**	**13.00**	**3.85**	**92.48**	**296.68**	**10.73**	**10.05**	**241.27**	**62.05**	**483.51**	**0.43**	**612.00**	**6210.00**	**25.75**	**51.14**	**1227.59**

Attachment 2

CEMS Plan for SO2 Emissions
PCS Phosphate Company, Inc., Aurora, NC Sulfur Burning Sulfuric Acid Plants

Principle

This CEMS Plan is the mechanism for determining compliance with the SO_2 emission limits in Section IV.A of the Consent Decree for the Aurora Sulfuric Acid Plants. The methodology described in this CEMS Plan will provide a continuous real-time indication of compliance with the emission limits established in the Consent Decree for the Aurora Sulfuric Acid Plants by determining the emission rate in terms of pounds of SO_2 emitted per ton of 100% Sulfuric Acid Produced ("lb/ton"). The system will utilize the following analyzers: one to measure stack SO_2 concentration, one to measure stack oxygen ("O_2") concentration, and one to measure the 100% Sulfuric Acid Production Rate. From these data, the SO_2 emission rate, expressed as lb/ton, will be directly calculated using Equations 1 and 2 below.

Equation 1:

$$E_{\frac{lb}{ton}} = \frac{Cs \cdot S}{(0.264 - 0.0126 \cdot \%O_2 - 7.61 \cdot Cs)}$$

Equation 2:

$$M_{SO_2 Stack} = E_{\frac{lb}{ton}} \cdot P_{H_2SO_4}$$

Where:

$P_{H_2SO_4}$ = 100% Sulfuric Acid Production, tons per unit of time

$M_{SO_2 Stack}$ = Mass SO_2 stack emission rate, lb per unit of time

$\%O_2$ = Stack O_2 concentration, percent by volume dry basis

Cs = Stack SO_2 concentration, lb/DSCF (to convert parts per million by volume, dry basis (ppmvd) to lb/DSCF, multiply by 1.661×10^{-7})

$E_{\frac{lb}{ton}}$ = lb SO_2 per ton 100% Sulfuric Acid Produced

S = the acid production rate factor, 11,800 DSCF/Ton of 100% Sulfuric Acid Produced;

Definitions

Terms used in this CEMS Plan that are defined in the Clean Air Act ("CAA") or in federal or State regulations promulgated pursuant to the CAA shall have the meaning assigned to them in the CAA or such regulations, unless otherwise defined in the Consent Decree. The terms used in this CEMS Plan that are defined in the Consent Decree shall have the meaning assigned to them therein.

Emissions Monitoring

Emissions monitoring will be done using an O_2 analyzer at the exit stack and an SO_2 analyzer at the exit stack. Except for any analyzer downtime, associated repairs, and required quality assurance or control activities (including calibration checks and required zero and span adjustments), and any other period specified in Paragraph 15 of the Consent Decree, PCS Phosphate Company, Inc. (PCS Phosphate) will conduct monitoring at each Aurora Sulfuric Acid Plant during all Operating Periods.

- At least once every 15 minutes, the analyzers will measure the stack SO_2 concentration (lb/DSCF or ppmvd) and the stack O_2 concentration (percent by volume).
- During routine calibration checks and adjustments of any analyzer, the pre-calibration level will be used to fill in any analyzer data gaps that occur pending completion of the calibration checks and adjustments.
- If any one or more than one analyzer is/are not operating, a like-kind replacement (*i.e.*, a redundant analyzer) may be used as a substitute.
- If any one or more than one analyzer is/are not operating for a period of 24 hours or greater and no redundant analyzer is available, data gaps in the array involving the non-operational analyzer(s) will be filled in as follows:
    - Exit stack gas will be sampled and analyzed for SO_2 at least once every three hours, while the relevant Aurora Sulfuric Acid Plant is operating. Sampling will be conducted by Reich test or other established method (*e.g.*, portable analyzer). The most recent 3-hour average reading will be substituted for the four 15-minute average measurements that would otherwise be utilized if the analyzer were operating normally.
    - O_2 in the exit stack gas will be sampled and analyzed at least once every three hours, while the relevant Aurora Sulfuric Acid Plant is operating. Sampling will be conducted by Orsat test or other method (*e.g.*, portable analyzer). The most recent 3-hour average reading will be substituted for the four 15-minute average measurements that would otherwise be utilized if the analyzer were operating normally.
- If any one or more than one analyzer is/are not operating for a period of less than 24 hours, PCS Phosphate will either: (i) follow the requirements set forth for a 24-hour or greater period of downtime to fill in the data gaps; or (ii) use the data recorded for the 3-hour average immediately preceding the affected analyzer's(s') stoppage to fill in the data gap.

Emissions Calculations

1-Hour Average

At the top of each hour, the CEMS will maintain an array of the 15-minute average measurements of each of the monitored parameters collected for that hour (or partial hour, in the case of a Shutdown) and perform the calculation specified in Equation 3.

Equation 3:

$$E_{1hravg} = \frac{\overline{Cs} \cdot S}{(0.264 - 0.0126 \cdot \overline{\%O_2} - 7.61 \cdot \overline{Cs})}$$

Where:

$\overline{\%O_2}$ = Stack O_2 concentration, percent by volume dry basis, arithmetic average of hourly measurements

$\overline{Cs}$ = Stack SO_2 concentration, lb/DSCF, arithmetic average of hourly measurements

S = the acid production rate factor, 11,800 DSCF/Ton of 100% Sulfuric Acid Produced;

E_{1hravg} = 1-hour average lb SO_2 per ton 100% Sulfuric Acid Produced

3-Hour Rolling Average

At the top of each hour, the CEMS will calculate the 3-hour rolling average SO_2 emission rate. (E_{3hravg}) by maintaining an array of the three most recently calculated values of E_{1hravg} and performing the calculation specified in Equation 4.

Equation 4

$$E_{3hravg} = \frac{\sum_i^3 E_{1hravg\ i}}{3}$$

$E_{1hravg\ i}$ = 1-hour average lb SO_2 per ton 100% Sulfuric Acid Produced for hour *i*

E_{3hravg} = 3-hour rolling average lb SO_2 per ton 100% Sulfuric Acid Produced

Daily Mass SO2 Emissions

The daily mass SO_2 emissions (M_{SO_2Day}) (which are based on a calendar day) will be calculated for each Aurora Sulfuric Acid Plant using the hourly values of E_{1hravg}, the measured 100% Sulfuric Acid Production rate, and Equation 5.

Equation 5:

$$M_{SO_2Day} = \sum_i^n \left(E_{1hravg\ i} \cdot P_{H_2SO_4Hour\ i}\right)$$

Where:

$E_{1hravg\ i}$ = 1-hour average lb SO_2 per ton 100% Sulfuric Acid Produced during hour *i*

$P_{H_2SO_4Hour\ i}$ = 100% Sulfuric Acid Produced during hour *i*, tons

M_{SO_2Day} = Mass emissions of SO_2 during a calendar day, lb

n = Number of operating hours in the day

365-Day Rolling Average

For the purposes of calculating a 365-day rolling average lb/ton SO_2 emission rate, the system will maintain an array of M_{SO_2Day} and $P_{TonsH_2O_4}$ each day for 365 days. Every day, the system will add the values from that day to the array and exclude the readings from the oldest day.

The 365-day rolling average lb/ton SO_2 emission rate ($E_{365-Day\ Avg}$) will be calculated for each Aurora Sulfuric Acid Plant using Equation 6:

Equation 6:

$$E_{365-Day\ Avg} = \frac{\sum_i^n M_{SO_2 Day\ i}}{\sum_i^n P_{H_2SO_4 Day\ i}}$$

Where:

$M_{SO_2 Day\ i}$ = Mass emissions of SO_2 during a calendar day *i*, lb
$P_{H_2SO_4 Day\ i}$ = 100% Sulfuric Acid Produced during day *i*, tons
$E_{365-Day\ Avg}$ = 365-day rolling average lb SO_2 per ton 100% Sulfuric Acid Produced

Rounding of Numbers Resulting from Calculations

Upon completion of the calculations, the final numbers will be rounded as follows:

E_{3hravg} : Rounded to the nearest tenth
$E_{365-Day\ Avg}$: Rounded to the nearest hundredth

The number "5" shall be rounded up (*e.g.*, a short-term rate of 2.05011 shall be rounded to 2.1).

Rounding of Variables: $Cs, \%O_2$, and $P_{H_2SO_4}$

Rounding of the variables identified as $Cs, \%O_2$, and $P_{H_2SO_4}$ in the equations set forth in this CEMS Plan shall be done based on the accuracy of the measuring device as provided by the manufacturer of the device.

Compliance with Consent Decree SO2 Limits

Nothing in this CEMS Plan shall preclude the use of other credible evidence or information, as authorized under Section 113 of the Clean Air Act and 40 CFR 60.11(g) and 61.12, to determine whether an Aurora Sulfuric Acid Plant is, or would have been, in compliance with the SO_2 Emissions Limits required by Section IV.A of the Consent Decree if the appropriate performance or compliance test had been performed.

Short-Term SO_2 Limits

The Short-Term SO2 Limits do not apply during periods of Startup, Shutdown, or Malfunction. During all other Operating Periods, PCS Phosphate will be in compliance with the Short-Term SO_2 Consent Decree Limit if E_{3hravg} for each Aurora Sulfuric Acid Plant does not exceed the applicable Short- Term SO_2 Limit listed in Table 1 in Paragraph 9 of the Consent Decree. If PCS Phosphate contends that emissions during a Malfunction(s) resulted in a calculated 3-hour rolling average emission rate(s) in excess of an applicable Short-Term SO_2 Limit, after the period of the Malfunction(s) end(s), PCS Phosphate will recalculate E_{3hravg} to exclude measurements recorded during the period(s) of the claimed Malfunction(s).

NSPS SO_2 Limits

The NSPS SO_2 Limit does not apply during periods of Startup, Shutdown, or Malfunction. During all other Operating Periods, PCS Phosphate will be in compliance with the NSPS SO_2 Limit if E_{3hravg} does not exceed 4.0 lb of SO_2 per ton of 100% Sulfuric Acid Produced. If PCS Phosphate contends that emissions during a Malfunction(s) resulted in a calculated 3-hour rolling average emission rate(s) in excess of 4.0 lb/ton after the period of the Malfunction(s) end(s), PCS Phosphate will recalculate E_{3hravg} to exclude measurements recorded during the period(s) of the claimed Malfunction(s).

Long-Term SO_2 Limits

The Long-Term SO_2 Limits include periods of Startup, Shutdown, and Malfunction. The Aurora Sulfuric Acid Plants will be in compliance with the Long-Term SO_2 Limits if $E_{365-Day\ Avg}$ does not exceed the applicable Long-Term SO_2 Limit listed in Table 1 in Paragraph 9 of the Consent Decree (measured as lbs of SO_2 per ton of 100% Sulfuric Acid Produced).

Retention of All CEMS Data, including Data during Startup, Shutdown, and Malfunction

PCS Phosphate will retain all data generated by its SO_2 analyzers, O_2 analyzers, and production rate analyzers including all data generated during Startup, Shutdown, and/or Malfunction ("SSM") of the Aurora Sulfuric Acid Plants in accordance with Section XIII of the Consent Decree.

Analyzer Specifications

The analyzers will meet the following specifications:

Table 1

Parameter	Location	Range
SO_2, parts per million, dry basis (to convert to lb/DSCF, multiply by 1.661×10^{-7})	Stack	Dual range: Normal: 0 –1,000 ppm SO_2 SSM: 0 –10,000 ppm SO_2
O_2, percent, dry basis	Stack	Single range: 0 – 20.9 % O_2

Each SO_2 and O_2 CEMS will meet all applicable requirements of 40 CFR 60.11, 60.13, Performance Specifications 2, 3, and 6 in 40 CFR Part 60, Appendix B, and the Quality Assurance and Quality Control Procedures in 40 CFR Part 60, Appendix F, Procedure 1.

RATA Requirements

After the Effective Date, pursuant to 40 CFR Part 60, Appendix F, Procedure 1, 5.1.1, PCS Phosphate shall conduct a Relative Accuracy Test Audit (RATA) at least once every four calendar quarters at each Aurora Sulfuric Acid Plant.

RATAs will be performed to determine the relative accuracy of the equipment, methods, and procedures required by this CEMS Plan. In addition to all other applicable procedures required by 40 CFR Part 60, Appendix F, Procedure 1, 5.1.1, RATA testing will compare the concentrations of SO_2 and O_2, as measured by the CEMS installed or operated as part of the Consent Decree, with the concentrations of SO_2 and O_2 measured during the RATA testing. In addition, RATA testing will compare the pounds of SO_2 emissions/ton of 100% Sulfuric Acid Produced, as calculated by Equation 1, with the pounds of SO_2 emissions/ton of 100% Sulfuric Acid Produced calculated during the RATA testing pursuant to 40 CFR 60.85.

Beginning with the initial RATA under this CEMS Plan, and thereafter for every triennial RATA (*i.e.*, year 1, 4, 7, etc.), PCS Phosphate will utilize the reference methods and procedures specified in 40 CFR 60.85(b) to generate the Reference Method (RM) values for calculating the relative accuracy. In intervening years (*i.e.*, year 2, 3, 5, 6, etc.) PCS Phosphate may use the alternative method at 40 CFR 60.85(c) to calculate the RM values.

For each RATA performed, stack flow shall be measured using Method 2, 2F, 2G, or 2H, or a combination thereof.

If a CEMS or the measurement of pounds of SO_2 emissions/ton of 100% Sulfuric Acid Produced (as calculated by Equation 1) is deemed to be "out of control" pursuant to 40 CFR Part 60, Appendix F, Procedure 1, 5.2, PCS Phosphate shall take all necessary corrective actions required by that procedure, including performing a follow-up

("verification") RATA meeting the requirements of this CEMS Plan. All necessary corrective actions and the verification RATA shall be completed within 30 days after the initial RATA testing. If the verification RATA determines that a CEMS or the measurement of pounds of SO_2 emissions/ton of 100% Sulfuric Acid Produced (as calculated by Equation 1) remains out of control, PCS Phosphate shall take all necessary corrective actions to eliminate the problem, including, but not limited to, submitting, for EPA review and approval, a revised SO_2 CEMS Plan that considers: a) installation of direct stack flow meters and b) a monitoring methodology that accurately measures emissions of SO_2/ton of 100% Sulfuric Acid Produced, but is not based on the S-Factor.

If the verification RATA determines that a CEMS or the measurement of pounds of SO_2 emissions/ton of 100% Sulfuric Acid Produced (as calculated by Equation 1) remains out of control, PCS Phosphate shall also be subject to stipulated penalties as set forth in Section X, Paragraph 63.b of the Consent Decree.

Compliance with the NSPS: 40 CFR Part 60, Subpart H

In addition to the requirements in this CEMS Plan, PCS Phosphate also will comply with all of the requirements of the NSPS relating to monitoring except that, pursuant to 40 CFR 60.13(i), this CEMS Plan will supersede the following provisions of 40 CFR Part 60, Subpart H:

- The procedures specified at 40 CFR 60.84(b) for converting monitoring data into the units of the applicable standard. In lieu of this PCS Phosphate will utilize the procedures specified in this CEMS Plan for calculating compliance with the NSPS SO_2 Limit.