



North Carolina Department of Environment and Natural Resources
Division of Air Quality

Beverly Eaves Perdue
Governor

B. Keith Overcash, P.E.
Director

Dee Freeman
Secretary

ENTER DATE

Mr. Steve Beckel
Plant Manager
PCS Phosphate Company, Inc.
P.O. Box 48
Aurora, North Carolina 27806

SUBJECT: Air Quality Permit No. 04176T43
Facility ID: 0700071
PCS Phosphate Company, Inc.
Aurora, Beaufort County
Fee Class: Title V
NSR Status: Major

Dear Mr. Beckel:

In accordance with your Air Quality Permit Application for a significant modification of the existing Title V air quality permit received on September 10, 2009 we are forwarding herewith Air Quality Permit No. 04176T43 to PCS Phosphate Company, Inc., Aurora, North Carolina 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 2Q .0503(8) have been listed for informational purposes as an "ATTACHMENT." Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. **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 request a formal adjudicatory hearing within 30 days following receipt of this permit, identifying the specific issues to be contested. This hearing request must be in the form of a written petition, conforming to NCGS (North Carolina General Statutes) 150B-23, and filed with **both** the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, North Carolina 27699-6714 and the Division of Air Quality, Permitting Section, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641. The form for requesting a formal adjudicatory hearing may be obtained upon request from the Office of Administrative Hearings. Please note that

Permitting Section

1641 Mail Service Center, Raleigh, North Carolina 27699-1641
2728 Capital Blvd., Raleigh, North Carolina 27604
Phone: 919-715-6235 / FAX 919-733-5317 / Internet: www.ncair.org

One
North Carolina
Naturally

Mr. Steve Beckel

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this permit will be stayed in its entirety upon receipt of the request for a hearing. Unless a request for a hearing is made pursuant to NCGS 150B-23, this Air Quality Permit shall be final and binding 30 days after issuance.

You may request modification of your Air Quality Permit through informal means pursuant to NCGS 150B-22. This request must be submitted in writing to the Director and must identify the specific provisions or issues for which the modification is sought. Please note that this Air Quality Permit will become final and binding regardless of a request for informal modification unless a request for a hearing is also made under NCGS 150B-23.

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 GS 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 GS 143-215.108A and may subject the Permittee to civil or criminal penalties as described in GS 143-215.114A and 143-215.114B.

This Air Quality Permit shall be effective from ENTER DATE until May 31, 2010, 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 Ms. Fern Paterson, P.E. at (919) 715-6242.

Sincerely yours,

Donald R. van der Vaart, Ph.D., J.D., P.E.
Chief

Enclosure

cc: Gregg Worley, EPA Region 4
Washington Regional Office
Central Files

ATTACHMENT I:

Insignificant Activities Pursuant to 15A NCAC 2Q .0503(8)

Source ID Nos.	Emission Source Description
I-T30	Storage tank which does not contain volatile organic liquids
I-T50	Storage tank which does not contain volatile organic liquids
I-T1030	Storage tank which does not contain volatile organic liquids
I-T1050	Storage tank which does not contain volatile organic liquids
I-15	Lime Hopper
I-14	Two vacuum Cleaners in DFP area (one 30 and one 75 horsepower)
I-T556	DAB Hold Tank
I-T554	PhosBrite Hold Tank
I-T552	90% Phosphoric acid storage tank
I-T550	88% Phosphoric acid storage tank
I-971	Gypsum Stack Number 1
I-972	Gypsum Stack Number 2
I-973	Gypsum Stack Number 3/4
I-974	Gypsum Stack Number 5
I-975	Gypsum Stack Number 6
I-426	STF Complex Cooling Tower Fan No. 1
I-427	STF Complex Cooling Tower Fan No. 2
I-317	Technical Services Pilot Plant
I-10	Phosphoric Acid Storage
I-9	Fuel Oil Storage Tank
I-8	Coal Storage Silo
I-7	Coal Mill
I-6	Coal Transfer Conveyor
I-5	Coal Unloading conveyor
I-4	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
I365-136-484	emergency kiln drive diesel, ep755
I365-160-523	emergency generator diesel, ep756
I370-196-478	lab fume hood exhaust, ep757
I999	mining operation fugitives
IR1-R8	reclaim areas 1 through 8

1. Because an activity is insignificant does not mean that the activity is exempted from an applicable requirement or that the owner or operator of the source 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 2D .1100 "Control of Toxic Air Pollutants" or 15A NCAC 2Q .0711 "Emission Rates Requiring a Permit".

ATTACHMENT II:

Changes to Existing Title V Air Permit No. 04176T42

Page(s)	Section	Description of Change(s)
1	Permit Cover Page	Amend permit revision numbers and issuance/effective dates.
3	Section 1	Add 112(j) designation to the affected boiler (ID No. BW-2).
24	Section 2.1.1.B., Table	Add CAA § 112(j) (2D .1109) to the list of applicable regulations.
27	Section 2.1.1.B.6.	Add Section to include 112(j) MACT Hammer requirements applicable to the affected boiler.
104-112	Section 3	Update General Provisions with the most recent revision (v. 3.1)



AIR QUALITY PERMIT

Permit No.	Replaces Permit No.	Effective Date	Expiration Date
04176T43	04176T42	ENTER DATE	May 31, 2010

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 2D and 2Q, and other applicable Laws.

Pursuant to Title 15A NCAC, Subchapter 2Q, 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.
Facility ID: 0700071

Facility Site Location: Highway 306 North of Aurora, North Carolina
City, County, State, Zip: Aurora, Beaufort County, North Carolina, 27806

Mailing Address: P.O. Box 48
City, State, Zip: Aurora, North Carolina, 27806

Application Number: 0700071.09D
Complete Application Date: September 10, 2009
Primary SIC Code: 2874

**Division of Air Quality,
Regional Office Address:** Washington Regional Office
1424 Carolina Avenue
Washington, NC 27889

Permit issued this the ENTER DATE, 2010.

Donald R. van der Vaart, Ph.D., J.D., P.E., Chief, Air Permits Section
By Authority of the Environmental Management Commission

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2.2 - Multiple Emission Source(s) Specific Limitations and Conditions (Including specific requirements, testing, monitoring, recordkeeping, and reporting requirements)

2.3 - Multiple Emission Source(s) Specific Limitations and Conditions: BART
Best Available Retrofit Technology: State Only Enforceable

SECTION 3: GENERAL CONDITIONS

ATTACHMENTS

1. List of Acronyms
2. List of North Carolina Air Toxics Emissions Limits

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

1. Sulfuric Acid Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
S-3 NSPS H	Double-absorption sulfuric acid plant No. 3 (1850 tons per day nominal capacity)	413-336	Horizontal mesh pads installed on final absorbing tower for H ₂ SO ₄ mist	101
S-4 BACT, NSPS H	Double-absorption sulfuric acid plant No. 4 (1850 tons per day nominal capacity)	414-436	Vertical tube mist eliminator system installed on final absorbing tower for H ₂ SO ₄ mist	102
S-5 NSPS H	Double-absorption sulfuric acid plant No. 5 (3600 tons per day nominal capacity)	415-934	Vertical tube mist eliminator system installed on final absorbing tower for H ₂ SO ₄ mist	103
S-6 NSPS H	Double-absorption sulfuric acid plant No. 6 (3800 tons per day nominal capacity)	406-129	Vertical tube mist eliminator system installed on final absorbing tower for H ₂ SO ₄ Mist; double-absorption is control for SO ₂	104
S-7* BACT, NSPS H	Double-absorption sulfuric acid plant No. 7 (5400 tons per day nominal capacity)	407-TBD*	Vertical tube mist eliminator system installed on final absorbing tower for H ₂ SO ₄ Mist; double-absorption is control for SO ₂	105
BW-2 NSPS Dc, 112(j)	Distillate oil-fired boiler (99.56 million Btu per hour nominal capacity)	N/A	N/A	110
SAF ¹	Sulfuric Acid Plant No. 3 Fugitives	N/A	N/A	190
417-503-462	Lime silo No. 4 at water treatment area	417-503-471	bagfilter (124 square feet of surface area)	121
417-755-462	Lime silo No. 5 at water treatment area	417-755-471	bagfilter (124 square feet of surface area)	122
417-756-462	Lime silo No. 6 at water treatment area	417-756-471	bagfilter (124 square feet of surface area)	123

¹ This is an insignificant source pursuant to 15A NCAC 2Q .0503(8) that is subject to state-enforceable only requirements

* Sulfuric Acid Plant No. 7 was authorized for construction in a PSD permit issued on January 4, 2008. PSD construction schedules apply to this modification.

2. Mill Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
339-051 MACT AA	vertical fluidized bed phosphate rock calciner unit No. 1 (105.1 tons per hour nominal feed); coal/coke/"off-spec" used oil/used oil sludge/used glycols/residual oil-fired	339-381a 339-381b 339-381c 339-381d	two duplex cyclones exhausting to fixed-throat Venturi wet scrubber exhausting to wet electrostatic precipitator	201
339-052 MACT AA	vertical fluidized bed phosphate rock calciner unit No. 2 (105.1 tons per hour nominal feed); coal/coke/"off-spec" used oil/used oil sludge/used glycols/residual oil-fired	339-382a 339-382b 339-382c 339-382d	two duplex cyclones exhausting to fixed-throat Venturi wet scrubber exhausting to wet electrostatic precipitator	202
339-053 MACT AA	vertical fluidized bed phosphate rock calciner unit No. 3 (105.1 tons per hour nominal feed); coal/coke/"off-spec" used oil/used oil sludge/used glycols/residual oil-fired	339-383a 339-383b 339-383c 339-383d	two duplex cyclones exhausting to fixed-throat Venturi wet scrubber exhausting to wet electrostatic precipitator	203
339-054 MACT AA	vertical fluidized bed phosphate rock calciner unit No. 4 (105.1 tons per hour nominal feed); coal/coke/"off-spec" used oil/used oil sludge/used glycols/residual oil-fired	339-384a 339-384b 339-384c 339-384d	two duplex cyclones exhausting to fixed-throat Venturi wet scrubber exhausting to wet electrostatic precipitator	204
339-055 MACT AA	vertical fluidized bed phosphate rock calciner unit No. 5 (105.1 tons per hour nominal feed); coal/coke/"off-spec" used oil/used oil sludge/used glycols/residual oil-fired	339-385a 339-385b 339-385c 339-385d	two duplex cyclones exhausting to fixed-throat Venturi wet scrubber exhausting to wet electrostatic precipitator	205
339-056 MACT AA	vertical fluidized bed phosphate rock calciner unit No. 6 (105.1 tons per hour nominal feed); coal/coke/"off-spec" used oils/used oil sludge/residual oil-fired	339-386a 339-386b 339-386c 339-386d	two duplex cyclones exhausting to fixed-throat Venturi wet scrubber exhausting to wet electrostatic precipitator	206
332-120 MACT AA	phosphate rock dryer (250 tons per hour nominal capacity); residual oil-fired	332-370a 332-370b	duplex cyclone and 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 exhausted to two parallel bagfilters	215
Belt39 to Belt70.1	Calcined rock CTS	339-821	Enclosed transfer point	220
Belt55 to Belt70.1	Calcined rock CTS Baghouse	339-860	bagfilter (580 square feet of surface area)	221
Belt21 to Belt23 or Belt24	Storage silo baghouse	333-180	bagfilter (360 square feet of surface area)	222

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 (75 square feet of surface area)	222
339-809-464	Calcined/dried rock CTS	N/A	N/A	223
224	polymer storage bin	320-215-478	bagfilter (1200 square feet of surface area)	224
225	lime storage silo	315-300-478	bagfilter (3000 square feet of surface area)	225
F290 ¹	Mill Concentrator Fugitives	N/A	N/A	290
F291 ¹	Calcliner Plant Area Fugitives	N/A	N/A	291
F292 ¹	Surge Pond Aerator	N/A	N/A	292
341-100 NSPS Y	Coal/coke railcar unloader (75 tons per hour nominal capacity)		Curtains, choke feeder, and wet suppression (spray) system	294a
341-110, 341-111, 341-112, 341-120 NSPS Y	Three parallel conveyor belts which transfer to single belt conveyor		wet suppression (spray) system, conveyor skirts at transfer points, and hood covers	294b
341-140 NSPS Y	Single belt conveyor		wet suppression (spray) system and hood covers	294c
341-130 NSPS Y	Coal/coke crusher (75 tons per hour nominal capacity)		wet suppression (spray) system	294d
341-200, 341-201 NSPS Y	Two coal/coke storage silos (1,086 tons, nominal capacity each)		Two filtered bin vents, one per silo	294e
341-230 NSPS Y	conveyor belt		wet suppression (spray) system and hood covers	294f

¹ These are insignificant sources subject to state enforceable only requirements

3. Fertilizer Production Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
Diammonium Phosphate Plant No. 2				
505-104 505-123A BACT, MACT BB	residual oil-fired dryer with one (1) duplex cyclone product separator	505-125 505-147	venturi wet scrubber packed tower tail gas scrubber with saddle-type packing and demister pads: all installed in a series	303
505-107 505-114 505-110 505-143 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 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

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
505-103 505-121 BACT, MACT BB	granulator reactor	505-118 505-148	reactor-granulator venturi wet scrubber packed tower tail gas scrubber with saddle-type packing and demister pad	303
Diammonium Phosphate Plant No. 3				
511-085 511-086 511-070 BACT, MACT BB	first stage reactor second stage reactor granulator	511-107A 511-107B 511-105	saturation chamber and wet cyclonic scrubber installed in series on a cyclonic tail gas scrubber	302
511-032 BACT, MACT BB	residual oil-fired dryer	511-028 511-103 511-105	dryer quad cyclone scrubber and two-stage dryer wet cyclonic scrubber installed in series on a cyclonic tail gas scrubber	302
511-025 BACT, MACT BB	cooler and other miscellaneous material handling points	511-029 511-106 511-105	cooler dual cyclone and 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 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 and dust cyclonic wet scrubber installed in series on a cyclonic tail gas scrubber	302
Other				
APP-1*	Ammonium Polyphosphate Plant (APP)	454-1	mist eliminator installed on packed tower cooler	304
AFP-1 BACT	filter press	N/A	N/A	305
511-045	GTSP phosphate rock silo	511-035	bagfilter operating only during rock transfer	310
DAP2WH2 ¹	Warehouse No. 2 for DAP 2	N/A	N/A	390
DAP3WH3 MACT BB	Warehouse No. 3 for DAP 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
318 ¹	Technical Services Dust Collection System - Pilot Plant	CD318	bagfilter	318

¹ These are insignificant sources subject to state enforceable only requirements

* The modification to this emission source (**ID Nos. APP-1**) is listed as a minor modification per 15 A NCAC 2Q .0515. The compliance certification as described in General Condition P is required. Unless otherwise notified by NC DAQ, the affected terms of this permit (excluding the permit shield as described General Condition R) for this source shall become final on August 24, 2008. Until this date, the permit terms herein reflect the proposed operating language that the Permittee shall operate this source under pursuant to 15A NCAC 2Q .0515(f).

4. Superphosphoric Acid Production Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
451-418 and 451-409 MACT AA	Superphosphoric acid plant No. 1	451-407	Venturi type wet scrubber	330
451-701 and 451-809 MACT AA	Superphosphoric acid plant No. 2	451-807	Venturi type wet scrubber	331
451-316 and 451-308 BACT, MACT AA	Superphosphoric acid plant No. 3	451-315	Venturi type wet scrubber	332
451-916 and 451-940 BACT, MACT AA	Superphosphoric acid plant No. 4			
FPR-1 ¹ FPR-2 ¹	No. 1 filter press/filter press repulp tank and No. 2 filter press/filter press repulp tank	N/A	N/A	335, 336
453-485	potassium permanganate silo	453-488	Bagfilter	340
453-468	clay or limestone additive storage silo	453-470	Bagfilter	341

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

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 BACT, MACT AA	Reactor Train No. 1	421-225	Spray cross-flow packed bed type scrubber	401
421-000 BACT, MACT AA	tilting pan (Bird) filter No. 1			
421-325 BACT, MACT AA	tilting pan (Bird) filter No. 1 primary vacuum pump installed on primary vacuum separator			
421-327 BACT, MACT AA	secondary vacuum pump installed on secondary vacuum separator			
421-223, 421-232 BACT, MACT AA	two barometric condensers vacuum pumps;			
421-218 BACT, MACT AA	barometric condensers hotwell			
421-330 BACT, MACT AA	tilting pan (Bird) filter No. 1 seal tanks.			

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
441-000, 441-015 BACT, MACT AA	Belt filter No. 1 filtrate separator, Belt filter No. 1 vacuum pump	441-021	Spray tower separator	402
441-031 BACT, MACT AA	belt filter No. 1 seal tanks	442-061	Cyclonic scrubber	403
Phosphoric Acid Train No. 2				
422-201 BACT, MACT AA	Reactor Train No. 2	422-225	Spray cross-flow packed bed type scrubber	404
422-000 BACT, MACT AA	tilting pan (Bird) filter No. 2			
422-325 BACT, MACT AA	tilting pan (Bird) filter No. 2 primary vacuum pump installed on primary vacuum separator			
422-327 BACT, MACT AA	secondary vacuum pump installed on secondary vacuum separator			
422-223, 422-232 BACT, MACT AA	two barometric condensers vacuum pumps			
422-218 BACT, MACT AA	barometric condensers hotwell			
422-330 BACT, MACT AA	tilting pan (Bird) filter No. 2 seal tanks			
442-000, 442-015 BACT, MACT AA	Belt filter No. 2 filtrate separator Belt filter No. 2 vacuum pump	442-021	Spray tower separator	405
Phosphoric Acid Train No. 3				
423-201 BACT, MACT AA	Reactor Train No. 3	423-225	Spray cross-flow packed bed type scrubber	406
423-000 BACT, MACT AA	tilting pan (Bird) filter No. 3;			
423-325 BACT, MACT AA	tilting pan (Bird) filter No. 3 primary vacuum pump installed on primary vacuum separator;			
423-327 BACT, MACT AA	secondary vacuum pump installed on secondary vacuum separator			
423-223, 423-232 BACT, MACT AA	two barometric condensers vacuum pumps			
423-218 BACT, MACT AA	barometric condensers hotwell			
423-330 BACT, MACT AA	tilting pan (Bird) filter No. 3 seal tanks			
443-000 BACT, MACT AA	Belt filter No. 3 filtrate separator	443-021 443-015	Spray tower separator and vacuum pump	407
444-031 BACT, MACT AA	belt filter No. 4 seal tanks	443-061	Cyclonic scrubber	408

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
Phosphoric Acid Train No. 4				
424-201 BACT, MACT AA	Reactor Train No. 4	424-225	Spray cross-flow packed bed type scrubber	409
424-000 BACT, MACT AA	tilting pan (Bird) filter No. 4;			
424-325 BACT, MACT AA	tilting pan (Bird) filter No. 4 primary vacuum pump installed on primary vacuum separator			
424-327 BACT, MACT AA	secondary vacuum pump installed on secondary vacuum separator			
424-223, 424-232 BACT, MACT AA	two barometric condensers vacuum pumps			
424-218 BACT, MACT AA	barometric condensers hotwell			
424-330 BACT, MACT AA	tilting pan (Bird) filter No. 4 seal tanks.			
444-000, 444-015 BACT, MACT AA	Belt filter No. 4 Belt filter No. 4 vacuum pump	444-021	Spray tower separator	410
Other				
020 ¹ , 030 ¹ , 031 ^{1*} , 040 ¹	Four phosphoric acid storage tanks	433-056	Venturi scrubber	421
032 ¹ , 033 ¹ , 034 ¹ , 060 ¹	Four phosphoric acid storage tanks (tank 060 may instead store green acid sludge)	433-036	Venturi scrubber	422
433-TBD	Clarifier tank	CD-433-TBD	Venturi scrubber	423
429-002 421-115 BACT	Two phosphate rock jet conveyors on reactor train No. 1	421-103	Bagfilter	430
429-005 422-115 BACT	Two phosphate rock jet conveyors on reactor train No. 2	422-103	Bagfilter	431
429-152 429-001 429-004 429-151 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 BACT	Phosphate rock transfer house	429-168	Bagfilter	437

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
426-156 ¹ 433-158 ¹ 433-165 ¹	slurry mix tank clarifier defluorinated acid pump tank	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
ES424 ¹	Silicon tetrafluoride (STF) Plants Nos. 1 and 2, each including drying column, flash drum and knock out drum	CD 438-200	Venturi scrubber (operated only during loading and maintenance operations)	424
ES425 ¹	Silicon tetrafluoride (STF) Plants Nos. 3 and 4, each including drying column, flash drum and knock out drum	CD TBD	Venturi scrubber (operated only during loading and maintenance operations)	425
PAPF	Phosphoric Acid Plant Fugitives	N/A	N/A	491
428-440 ¹ 428-442 ¹ 433-182 ¹	two HFSA tanks, and carbon slurry tank	N/A	N/A	492

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

* The modification to this emission source (**ID Nos. 031**) is listed as a minor modification per 15 A NCAC 2Q .0515. The compliance certification as described in General Condition P is required. Unless otherwise notified by NC DAQ, the affected terms of this permit (excluding the permit shield as described General Condition R) for this source shall become final on **August 24, 2008**. Until this date, the permit terms herein reflect the proposed operating language that the Permittee shall operate this source under pursuant to 15A NCAC 2Q .0515(f).

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				
T24 T224 T324 T346 MACT AA	scrub acid storage tank scrub acid storage tank scrub acid storage tank discharging through a seal pot	S324 GC-1	packed bed scrubber gas chiller system	501
C10 C20 C210 C220 MACT AA	extraction column under nitrogen extraction column under nitrogen extraction column under nitrogen extraction column 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			

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
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	still 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	
CT-1 MACT AA	direct contact cooling tower No. 1	N/A	N/A	510, 511
CT-2 MACT AA	indirect contact cooling tower No.2	N/A	N/A	512, 513A, 513B
Purified Acid Plant No. 2				
T1024, T1324 T1346 BACT, MACT AA	two scrub acid storage tanks, discharging through one (1) vent pot to gas scrubbing system	S1324 GC-2	packed bed scrubber gas chiller system	503
C1010, C1020 BACT, MACT AA	two extraction columns under nitrogen	GC-2	gas chiller system	
T1007, T1012, T1013, T1212, T1001, T1040, T1057 BACT, MACT AA	seven tanks under nitrogen			
T1054, T1044, T1034 BACT, MACT AA	three tanks/seal pots under nitrogen			
T1008, T1015, T1215, T1315, T1058 BACT, MACT AA	five seal pots under nitrogen			
S1043, S1053, S1253, S1033, S1005 BACT, MACT AA	five separators under nitrogen			
S1004 BACT, MACT AA	still under nitrogen			

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
S1042, S1032, S1052, S1054 BACT, MACT AA	four strippers under nitrogen			
S1324 BACT, MACT AA	scrubber under nitrogen			
S1088 T1070 BACT	acid defluorination column and acid concentrator	S1092	wet spray tower with a demister pad	504
S1118 T1100 BACT	acid defluorination column and acid concentrator	S1122	wet spray tower with a demister pad	
E1180 BACT, MACT AA	direct contact cooling tower No. 1	N/A	N/A	514, 515
E1181 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 BACT, MACT AA	two scrub acid storage tanks, discharging through one (1) vent pot to gas scrubbing system	S1324 GC-2	packed bed scrubber gas chiller system	503
C1210, C1220 BACT, MACT AA	two extraction columns under nitrogen blanket system	GC-2	gas chiller system	
T1201, T1207, T1213, T1240, T2057 BACT, MACT AA	Five tanks under nitrogen			
T1244 BACT, MACT AA	tank with seal pots under nitrogen			
T1415, T1515 T1208, T1258 T1546 BACT, MACT AA	five emergency vent pots			
S1243, S1205 BACT, MACT AA	two separators under nitrogen			
S1242 BACT, MACT AA	stripper under nitrogen			
S1204 BACT, MACT AA	still under nitrogen			
S1288 T1270 BACT	Acid defluorination column and Acid concentrator	S1292	acid scrubber	506
TBDA BACT, MACT AA	Direct contact cooling tower No. 3	N/A	N/A	518, 519
TBDB 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

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
T137 ¹ , T1137 ¹	Two product under flow acid storage tanks	N/A	N/A	591 593
T67 ¹ , T467 ¹ , T267 ¹ , 1067 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	18 carbon treated low alkali acid tanks	N/A	N/A	591 593
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 , T309 ¹	Two head tanks	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

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

7. Defluorinated Feed Phosphate (DFP) Area

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
355-116-455 A&B BACT	Two pug mills	360-120-476	Limestone slurry wet scrubber	701

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
365-135-477	Defluorination kiln (coal for standard operation, No. 2 fuel oil and propane for start up)			
370-106-468	Grate Cooler	370-110-478	fabric filter	702
355-128-462	Soda ash day bin	355-134-478	fabric filter	709
382-137-463	Soda ash unloading	382-105-478	fabric filter	710
382-100-462	Limestone storage silo	382-103-478	fabric filter	711
370-169-472	Classifier elevator	370-166-478	Fabric Filter (3,167 square feet of filter area)	712
370-165-452	Classifier			
355-154-463	Soda Ash Feeder	355-138-478	fabric filter	713
355-153-463	Limestone Feeder			
355-112-473	Plenum Recycle Dust Discharge Conveyor			
365-155-472	Plenum Dust Elevator			
355-125-462	Plenum Dust Bin			
355-129-462	Phosphate Rock Surge Bin	355-137-478	fabric filter	714
355-155-463	Phosphate Rock Feeder	355-138-478		
355-156-433	Recycle Feeder	355-138-478		
355-130-462	Recycle Bin	355-141-478	fabric filter	715
370-120-478	Classifier product elevator	370-120-478	fabric filter	717
370-176-474	Product cooler discharge conveyer			
370-155-472	Clinker surge bin elevator			
370-177-463 370-174-463	Clinker reclaim conveyer Nos. 1 and 2			
370-113-462	Clinker surge bin			
370-156-472	Screening feed elevator			
370-115-462	Clinker reclaim hopper			
370-126-480	Clinker reclaim crusher			
370-140-452	Clinker screen			
370-114-462	Abort surge bin			
370-175-463	Crusher discharge conveyer			
370-148A-463	Product screen discharge conveyer			
370-148B-463	Classifier discharge belt conveyer			
370-173-463	Clinker transfer conveyer			
370-143-463	Clinker dump conveyer			
370-147-450	Clinker surge bin feeder			
370-144-463	Clinker feed conveyer			
370-131-480	Primary clinker crusher			
370-132-480	Secondary clinker crusher			

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
375-117-463	Product transfer conveyor			
375-118-463	Product tripper conveyor			
375-105-462	Product load out hopper	375-111-478	fabric filter	718
375-106-462	Product Reclaim Hopper			
375-108-452	Product Polishing screen			
375-132-472	Product load out elevator			
375-119-463	Product reclaim conveyor			
375-120-463	Product load out conveyor	375-135-478	fabric filter	754
RCVH	Four Rail car vent hoods			
375-121-463	Product load out car spout			
375-123-463	Car loading conveyor			
375-124-461	Car loading conveyor			

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, 606
Ammonia Tanks ¹	Ammonia Storage Tanks	N/A	N/A	604, 605
Sulfur Unloading ¹	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-44 ¹ T-050 ¹ to T-052 ¹ T-054 ¹ to T-056 ¹	33 phosphoric acid storage tanks (shipping tank farm)	N/A	N/A	616
453-458 ¹	Superphosphoric acid aging tank (shipping tank farm)	N/A	N/A	
AT2 ¹	Superphosphoric acid aging tank (shipping tank farm)	N/A	N/A	
497-4-105 ¹	Superphosphoric acid and clay additive mix tank (shipping tank farm)	N/A	N/A	
453-115 ¹ 453-412 ¹	No. 1 filter press feed tank No. 2 filter press feed tank	N/A	N/A	
VSEP Tank ¹	5,000 gallon VSEP feed tank	N/A	N/A	
Black Lomag ¹	110,000 gallon Black Lomag tank	N/A	N/A	

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
Permeate Tank ¹	1,000 gallon permeate tank	N/A	N/A	
Concentrate Tank ¹	1,000 gallon concentrate tank	N/A	N/A	
CTP ¹	Concentrate storage pile	N/A	N/A	
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
F650	CTS - Grinder Rock Loadout	N/A	Enclosures	650
F651	CTS - Grinder Rock Loadout	N/A	Enclosures	651
F652	Rock Loadout Transfer Station	N/A	Enclosures	652
F653	CTS - Phosphate Rock Transfer Station	N/A	Enclosures	653
F654	Rock Tower Loadout facility	531-600	bagfilter	654
F655	Chute-Barge Rock Loadout	N/A	Enclosures	655
F656	Chute-Train Rock Loadout	N/A	Enclosures	656

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

9. Miscellaneous Sources

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description	Emission Point (ep)
214-613	Mine Pit Diesel Generator	N/A	N/A	801
326-800-484	Calciner Building Diesel Generator	N/A	N/A	802
CP No. 1 ¹	Cooling Pond No. 1	N/A	N/A	910-913
CP No. 2 ¹	Cooling Pond No. 2	N/A	N/A	914-921
CP No. 3 ¹	Cooling Pond No. 3	N/A	N/A	922
GYP Pond No. 1 ¹	Gypsum Stack Pond No. 1	N/A	N/A	930-931
GYP Pond No. 2 ¹	Gypsum Stack Pond No. 2	N/A	N/A	932-944
GYP Pond No. 5 ¹ and No. 6 ¹	Gypsum Stack Pond No. 5 and 6	N/A	N/A	945-950
GYP Pond No.3/4 ¹	Gypsum Stack Pond No. 3/4	N/A	N/A	951-954
999	Mining operations fugitives	N/A	N/A	999
R1-R8	Reclaim Areas 1,2,3,4,5,6,7, and 8	N/A	N/A	

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

SECTION 2 - SPECIFIC LIMITATIONS AND CONDITIONS

2.1 - Emission Sources and Control Devices 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

horizontal mesh pads (ID No. 413-336) installed on the final absorbing tower of double-absorption sulfuric acid plant No. 3 (ID No. S-3) ep101

vertical tube mist eliminator (BACT; ID No. 414-436) installed on the final absorbing tower of double-absorption sulfuric acid plant No. 4 (ID No. S-4) ep102

vertical tube mist eliminator (ID No. 415-934) installed on the final absorbing tower of double-absorption sulfuric acid plant No. 5 (ID No. S-5) ep103

vertical tube mist eliminator (ID No. 406-129) installed on the final absorbing tower of double-absorption sulfuric acid plant No. 6 (ID No. S-6) ep104

vertical tube mist eliminator (BACT; ID No. 407-TBD) installed on the final absorbing tower of double adsorption sulfuric acid plant No. 7 (ID No. S-7) ep105

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur dioxide	Sulfuric Acid Plant No. 7, No. 3*, and No. 4* emissions shall be less than 2,006 tons of sulfur dioxide per consecutive 12-month period, combined.** * Sulfuric Acid Plant No. 3 and No. 4 (ID Nos. S-3 and S-4) shall be permanently shut down after achieving sustained normal operations at Sulfuric Acid Plant No. 7 (ID No. S-7). ** This avoidance condition becomes effective upon initial start-up of Sulfuric Acid Plant No. 7 (ID No. S-7).	15A NCAC 2Q .0317 <i>(Avoidance of 15A NCAC 2D .0530)</i>
	27 pounds per ton of 100% sulfuric acid produced	15A NCAC 2D .0517
	4 pounds per ton of 100% sulfuric acid produced	15A NCAC 2D .0524 <i>(40 CFR 60, Subpart H)</i>
Visible emissions	10 percent opacity	15A NCAC 2D .0524 <i>(40 CFR 60, Subpart H)</i>
Sulfuric acid mist	0.5 pounds per ton of 100% sulfuric acid produced	15A NCAC 2D .0517
	0.15 pounds per ton of 100% sulfuric acid produced	15A NCAC 2D .0524 <i>(40 CFR 60, Subpart H)</i>
	0.075 pounds per ton of 100% sulfuric acid produced for Sulfuric Acid Plant No. 7 (S-7)	15A NCAC 2D .0530 BACT for S-7
	7.5 pounds per hour (calculated as a rolling annual average for five calendar years) for Sulfuric Acid Plant No. 4 (S-4)	15A NCAC 2D .0530 BACT for S-4
Nitrogen dioxide	5.8 pounds per ton of 100% sulfuric acid produced	15A NCAC 2D .0519

Regulated Pollutant	Limits/Standards	Applicable Regulation
Nitrogen dioxide	0.6 pounds per ton of 100% sulfuric acid produced for Sulfuric Acid Plant No. 7 (S-7)	15A NCAC 2D .0530 BACT for S-7
TAPS	See Multiple Emission Sources, Section 2.2.A.2. and Attachment 2 of this permit	15A NCAC 2D .1100

1. 15A NCAC 2Q. 0317: AVOIDANCE CONDITIONS

for 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

- a. Upon initial start-up of Sulfuric Acid Plant No. 7 (**ID No. S-7**), the combined sulfur dioxide emissions from Sulfuric Acid Plant No. 7, No. 3, and No. 4 (**ID Nos. S-7, S-3, and S-4**) shall be less than 2,006 tons per consecutive 12-month period.
- b. Sulfuric Acid Plant No. 3 and No. 4 (**ID Nos. S-3 and S-4**) shall be permanently shutdown after achieving sustained normal operations at Sulfuric Acid Plant No. 7 (**ID No. S-7**). The Permittee shall notify the DAQ in writing upon the shutdown of each sulfuric acid plants as required in Section 2.1.1.A.1.e. of this permit.

Testing [15A NCAC 2Q .0508(f)]

- c. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1.1.A.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- d. Each calendar month, beginning on the calendar month following initial startup of Sulfuric Acid Plant No. 7 (**ID No. S-7**), the Permittee shall determine the combined SO₂ emissions from the affected Sulfuric Acid Plants (**ID Nos. S-7, S-3, and S-4**) during the previous calendar month and the previous consecutive 12-month period in accordance with the following procedures:
 - i. Determine the SO₂ emission rate from each affected Plant (in lbs/ton 100% H₂SO₄ produced) during the previous calendar month in accordance with Sections 2.1.1.A.4.h. and i. of this permit;
 - ii. Determine the monthly SO₂ emissions from each affected Plant (in lbs/month) by multiplying the emission rate, as determined in i. above, by the total production of 100% H₂SO₄ at that Plant during the previous calendar month (in tons/month).
 - iii. Determine the combined monthly SO₂ emissions (in tons/month) by summing emissions from each of the affected Plants during the previous calendar month, as determined in ii. above, and dividing the sum by the lbs-to-ton conversion factor (i.e., 2,000 lbs/ton).
 - iv. Determine the combined SO₂ emissions from the previous 12-month period (in tons/12-months) by summing the combined monthly sulfur dioxide emission rate, as determined in iii. above, for each of the previous 12 calendar months, except as provided in v. below.
 - v. For the 12-month period following initial startup of Sulfuric Acid Plant No. 7 (**ID No. S-7**), this 12-month rolling total shall NOT include emissions from those months prior to initial startup of Sulfuric Acid Plant No. 7 (**ID No. S-7**). For example, if initial startup of the Sulfuric Acid Plant No. 7 (**ID No. S-7**) is in March 2008, the 12-month rolling emissions rate calculated in September 2008 in accordance with iv. above shall only include emissions from March through August of that year.

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 2D .0530 if these records are not retained, or if the combined. 12-month sulfur dioxide emission rate, as determined in iv. above, exceeds the limit in Section 2.1.1.A.1.a. of this permit.

Reporting [15A NCAC 2Q .0508(f)]

- e. The Permittee shall notify the DAQ in writing upon the shutdown of each sulfuric acid plants (**ID Nos. S-3 and S-4**), as required in Section 2.1.1.A.1.b. of this permit.
- f. The Permittee shall submit a summary report of 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. The report shall contain the following:
 - i. Combined monthly sulfur dioxide emissions from the affected sources for the previous 17 months as calculated in Section 2.1.1.A.1.d.iii. of this permit; and,

- ii. 12-month rolling sulfur dioxide emissions from the affected sources for each of the six 12-month periods over the previous 17-month period as calculated in Section 2.1.1.A.1.d.iv. of this permit.

2. 15A NCAC 2D .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 2Q .0508(f)]

- c. Testing, monitoring, recordkeeping, and reporting shall be conducted in accordance with the New Source Performance provisions of Section 2.1.1.A.4. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0517 if records are not maintained or if the results of any test are above the limit in Section 2.1.1.A.2.a. or b. of this permit.

3. 15A NCAC 2D .0519: NITROGEN OXIDE EMISSIONS FROM SULFURIC ACID MANUFACTURING PLANTS

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

Testing/Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

- b. The Permittee shall demonstrate compliance by conducting a performance test on at least one of No. 3, No. 4, No. 5, or No. 6 Sulfuric Acid Plants (**ID Nos. S-3, S-4, S-5, and S-6**) once every five-year permit cycle. The test shall be conducted in accordance with 40 CFR Part 60, Appendix A, Reference Method 7, or approved alternative method as described in 40 CFR 60.8(b). The results of the testing must be submitted to the Division within 45 days of the completion of the test. The Permittee shall be deemed in noncompliance with 2D .0519 if the test is not performed within the required time frame or if the results show an exceedance of the emission standard contained in Section 2.1.1.A.3.a. above.
- c. The Permittee shall demonstrate compliance at the Sulfuric Acid Plant No. 7 (**ID No. S-7**) by conducting an initial and annual performance test in accordance with the PSD BACT provisions of Section 2.1.1.A.6.c.ii. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0519 if records of these tests are not maintained or if the results of the tests are above the limit in Section 2.1.1.A.3.a. of this permit.

4. 15A NCAC 2D .0524: NSPS 40 CFR 60, SUBPART H

- 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 2D .0524 "New Source Performance Standards" as promulgated in 40 CFR 60, Subpart H, including Subpart A "General Provisions" for each of the sulfuric acid plants.

Emission Standards [15A NCAC 2Q .0508(f)]

- 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 2Q .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.4.b. through d. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.
- f. The Permittee shall demonstrate compliance with the sulfuric acid mist emission limit above by testing each sulfuric acid plant (**ID Nos. S-3 to S-6**) annually for sulfuric acid mist in accordance with a testing protocol approved by the DAQ.
 - i. If Sulfuric Acid Plants Nos. 3 or 4 conduct more than one test in a single calendar year, all tests shall be averaged to calculate the averaged value for that calendar year. In addition, the facility shall use the averaged annual test result to calculate a five-year rolling average.

- ii. The rolling average shall be calculated using calendar years. The facility shall use historical test data to begin reporting the rolling five-year average emission rate requirement until five years of new data have been acquired.
- iii. If any of Sulfuric Acid Plants 3, 4, 5, or 6 operate for any day at a production rate exceeding that listed for that plant in Section 1, then the production rate required during annual 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 production year, divided by 24. If an annual 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 annual test for that plant for the following year may use the normal production rate.
- iv. If any of Sulfuric Acid Plants 3, 4, 5, or 6 do not operate for any day at a production rate exceeding that listed for that plant in the Permitted Source List in Section 1, then the production rate required during annual 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.
- v. 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 Division of Air Quality in advance of the test must approve the production rate for the source test. The facility shall establish the production rate, either 90 percent of highest or normal, using the production records over the last production year. A copy of the production records must accompany the request.

If the results of this test are above the limit given in Section 2.1.1.A.4.c. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

g. For the Sulfuric Acid Plant No. 7 (**ID No. S-7**):

- i. The Permittee shall conduct initial compliance testing with the sulfur dioxide, sulfuric acid mist, and visible emission standards within 60 days of achieving the maximum sustained production rate, but not later than 180 days after initial start-up.
- ii. The Permittee shall conduct annual compliance testing with the sulfuric acid mist emission standard. Initial and annual compliance testing shall be conducted according to procedures pursuant to 40 CFR 60.85(b)(1) through (4) and in accordance with General Condition JJ. If the results of any test are above the limits given in Section 2.1.1.A.4.b., c., or d. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0503

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

Sulfur Dioxide Requirements

- h. Except as provided in h. below, the Permittee shall monitor sulfur dioxide emissions from each of the affected sulfuric acid plants (**ID Nos. S-3, S-4, S-5, S-6, and S-7**) in accordance with the following procedures: [40 CFR 60.84(a)-(c)]
 - 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 (SO₂). 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.
 - ii. Establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (lb/ton). The conversion factor shall be determined, as a minimum, three times daily by measuring the concentration of sulfur dioxide entering the converter using suitable methods (e.g., the Reich test, National Air Pollution Control Administration Publication No. 999-AP-13) and calculating the appropriate conversion factor for each eight-hour period in accordance with 40 CFR 60.84(b).
 - iii. Record all conversion factors and how they were computed, including the input values. 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 2D .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. of this permit.
- i. As an alternative to the monitoring requirements in g. above, the Permittee may install, calibrate, maintain, and operate continuous monitoring systems for the measurement of SO₂, O₂, and CO₂ (if required) in accordance with 40 CFR 60.84(d). This procedure is not required, but is an alternative that would alleviate problems encountered in the measurement of gas velocities or production rate. If using this alternative 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 2D .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. of this permit.

Sulfuric Acid Mist Requirements

- j. Sulfuric acid mist emissions from the final absorbers at Sulfuric Acid Plant Nos. 4 through 7 (**ID Nos. S-4 through S-7**) shall be controlled by vertical tube mist eliminators. Sulfuric acid mist emissions from the final absorber at Sulfuric Acid Plant No. 3 (**ID No. S-3**) shall be controlled by horizontal mesh pads. To assure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the ductwork and vertical tube mist eliminators and horizontal mesh pad are not inspected and maintained.
- k. 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:
- the date and time of each recorded action;
 - the results of each inspection;
 - the results of any maintenance performed on the vertical tube mist eliminators or horizontal mesh pad; and
 - any variance from manufacturer's recommendations, if any, and corrections made.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

Visible Emission Requirements

- l. To assure 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. The Permittee shall establish a normal \bar{x} for the Sulfuric Acid Plant No. 7 (**ID No. S-7**) within 30 days of initial startup. If visible emissions from this source are observed to be above normal, the Permittee shall either:
- 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
 - demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .2601 is below the limit given in 2.1.1.A.4.d. above.
- If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0524.
- m. 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:
- the date and time of each recorded action;
 - 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
 - the results of any corrective actions performed.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

- n. The Permittee shall submit a summary report of 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.

Start-Up Procedures for Sulfuric Acid Plants [15A NCAC 2Q .0508(f)]

- o. Only one sulfuric acid plant at a facility should be in start up 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 SO₂ 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.
- p. A plant start-up must be at the lowest practicable operating rate, not to exceed 70 percent of the designed operating rate, until the SO₂ 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 foreman may approve an increase in rate if he judges that will result in faster reduction of emissions.

- q. 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 2Q .0508(f)]

- r. **Converter**
 - i. The inlet and outlet temperature at the first two masses of catalyst shall be sufficiently high to provide immediate ignition when SO₂ enters the masses. In no event shall the inlet temperature to the first mass be less than 800 °F or the outlet temperature to 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 SO₂ at a level less than normal, and sufficiently low to promote catalytic conversion to SO₃.
- 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 H₂SO₄.

Warm Restart Procedures [15A NCAC 2Q .0508(f)]

- t. **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 first two catalyst masses inlet and outlet temperatures 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.
- u. **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 H₂SO₄.

5. 15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD) BACT

- a. For Sulfuric Acid Plant 4 (**ID No. S-4**) the following table shall describe the emission standards:

Emission Source	Pollutant	BACT	Emission Limit
Sulfuric Acid Plant No. 4 (ID No. S-4), ep102	sulfur dioxide	four pass sulfur dioxide catalytic conversion and two stage sulfur trioxide adsorption	7,032 lb/day
Sulfuric Acid Plant No. 4 (ID No. S-4) ep102	sulfuric acid mist/PM-10	Vertical tube mist eliminator	7.5 lb/hour ¹

1. Calculated as a rolling annual average for five calendar years.

Testing [15A NCAC 2Q .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.5.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.
- c. The Permittee shall demonstrate compliance with the emission limits above by testing the Sulfuric Acid Plant No. 4 (**ID No. S-4**) annually for sulfuric acid mist in accordance with Section 2.1.1.A.4.f. and General Condition JJ. If the results of this test are above the limit given in Section 2.1.1.A.5.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .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 2D .0530 if these records are not maintained.
- e. The Permittee shall measure sulfur dioxide emissions using a continuous emissions monitoring system (CEMS) as required in Section 2.1.1.A.4.h. and i. If the results of this monitoring show emissions in excess of the standards in Section 2.1.1.A.5.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Reporting [15A NCAC 2Q .0508(f)]

- f. The Permittee shall submit a summary report of 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

6. 15A NCAC 2D. 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	BACT	Emission Limit⁽¹⁾
Sulfuric Acid Plant No. 7 (ID No. S-7)	Nitrogen Oxides	none	0.6 lbs/ton of 100% acid produced
Sulfuric Acid Plant No. 7 (ID No. S-7)	Sulfuric Acid Mist	Vertical Tube Mist Eliminator	0.075 lbs/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 2D .0530.

Testing [15A NCAC 2Q .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.6.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.
- c. The Permittee shall demonstrate compliance with the emission limits above by conducting initial and annual stack tests at Sulfuric Acid Plant No. 7 (**ID No. S-7**). The initial compliance test shall be conducted within 60 days of achieving the maximum sustained production rate, but not later than 180 days after initial start-up. Annual compliance tests shall be conducted at least once per calendar year.
 - i. Sulfuric acid mist testing shall be conducted 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.4.g. of this permit.
 - ii. Nitrogen oxide emissions shall be conducted in accordance with EPA Method 7, or an approved permit protocol.

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 2D .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.6.a. of this permit.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- d. The Permittee shall comply with the inspection and maintenance requirements of Section 2.1.1.A.4.j. and k. of this permit for the vertical tube mist eliminator. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if these requirements are not met.

Reporting [15A NCAC 2Q .0508(f)]

- e. The Permittee shall submit a summary report of 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.

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

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.268 pounds per million Btu	15A NCAC 2D .0503
Visible Emissions	20 percent opacity	15A NCAC 2D .0524 (40 CFR 60, Subpart Dc)
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
	Fuel oil sulfur content limit of 0.5 percent	15A NCAC 2D .0524 (40 CFR 60, Subpart Dc)
	Less than 40 tons per consecutive 12-month period	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .0530)
Nitrogen Oxides	Less than 40 tons per consecutive 12-month period	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .0530)
Hazardous Air Pollutants	Best Combustion Practices	15A NCAC 2D .1109 [CAA § 112(j)]
Toxic Air Pollutants	Multiple Emission Sources Section 2.2.A.2. and Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .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 0.268 pounds per million Btu heat input.

Testing [15A NCAC 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. 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 2D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

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

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

- a. Emissions of sulfur dioxide from these sources 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 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1.1.B.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. No monitoring/recordkeeping is required for sulfur dioxide emissions from No. 2 fuel oil for this source.

3. 15A NCAC 2D .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 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1.1.B.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas/propane/No. 2 fuel oil in this source.

4. 15A NCAC 2D .0524: NSPS, 40 CFR 60, SUBPART Dc

- 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 2D .0524 "New Source Performance Standards" as promulgated in 40 CFR 60, Subpart Dc, including Subpart A "General Provisions".

Emission Limitations [15A NCAC 2D .0524]

- b. The maximum sulfur content of any fuel oil received and burned in the boiler shall not exceed 0.5 percent by weight.

Testing [15A NCAC 2D .2601]

- c. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1.1.B.4.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Monitoring [15A NCAC 2Q .0508(f)]

- d. To assure 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 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;
 - iv. The method used to determine the maximum sulfur content of the fuel oil; and
 - v. 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 2D .0524 if sulfur content of the fuel oil is not monitored and recorded.

Recordkeeping [15A NCAC 2Q .0508(f)]

- e. In addition to any other recordkeeping required by 40 CFR § 60.48c or recordkeeping requirements of the EPA, the Permittee shall record and maintain records of the amounts of fuel fired during each month. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

- f. In addition to any other reporting required by 40 CFR § 60.48c or notification requirements to the EPA, the Permittee is required to **NOTIFY** the DAQ in **writing** of the following:
 - i. The Permittee shall submit a summary report of 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. The report shall contain the following fuel supplier information;
 - (A) The name of the oil supplier;
 - (B) A statement from the oil supplier that the oil complies with the specification under the definition of distillate oil in 40 CFR § 60.41c; and,
 - (C) A certified statement signed by the owner or operator of an affected facility that the records of fuel supplier certification submitted represents all of the fuel fired during the semiannual period.
 - ii. All instances of deviations from the requirements of this permit must be clearly identified.

**5. 15A NCAC 2Q .0317: AVOIDANCE CONDITIONS
for 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION**

- a. In order to avoid applicability of 15A NCAC 2D .0530(g) for major sources and major modifications, total sulfur dioxide (SO₂) and nitrogen oxide (NO_x) emissions from the boiler (**ID No. BW-2**) shall be less than the following emissions limits:
- i. 40 tons of SO₂ per consecutive 12-month period; and,
 - ii. 40 tons of NO_x per consecutive 12-month period.

Testing [15A NCAC 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. If the results of this test are above the limits given in Section 2.1.1.B.5.a.i. or ii. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .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 1,000 gal) 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 2D .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 SO₂ and NO_x 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 SO₂ (Eqn. 1) and NO_x (Eqn. 2) emissions from the previous calendar month using the following equations:

$$E_{SO_2} = 142 * S * Q_{fo2} \quad \text{[Eqn. 1]}$$

$$E_{NOx} = 20 * Q_{fo2} \quad \text{[Eqn. 2]}$$

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 _{NO_x}	=	NO _x emissions (in lbs) during the previous calendar month.

- ii. Sum the SO₂ emissions from the affected boiler for the previous 12-month period to determine the 12-month rolling emission total.
- iii. Sum the NO_x 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 2D .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.5.a.i. or ii. of this permit.

Reporting [15A NCAC 2Q .0508(f)]

- e. The Permittee shall submit a semiannual summary report, acceptable to the Regional Air Quality Supervisor, of 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. The report shall contain the following:
- i. Monthly emissions of SO₂ and NO_x emissions from the affected boiler for the previous 17 months, as calculated in Section 2.1.1.B.5.d.i. of this permit;
 - ii. Total SO₂ 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.5.d.ii. of this permit; and,
 - iii. Total NO_x 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.5.d.iii. of this permit.

6. 15A NCAC 2D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters

- a. The Permittee shall use best combustion practices when operating the affected boiler (**ID No. BW-2**). The initial compliance date for this work practice standard and the associated monitoring, recordkeeping, and reporting requirements is **<ENTER DATE THREE YEARS AFTER PERMIT ISSUANCE>**. These conditions need not be included on the annual compliance certification until after the initial compliance date.

Monitoring [15A NCAC 2Q .0508(f)]

- b. To assure compliance, the Permittee shall perform an annual boiler inspection and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:
- i. Inspect the burner, and clean or replace any components of the burner as necessary;
 - ii. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern; and,
 - iii. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly.

The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the affected boilers are not inspected and maintained as required above.

Recordkeeping [15A NCAC 2Q .0508(f)]

- c. 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; and,
 - iii. The results of any maintenance performed on the boilers.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

- d. No reporting is required for hazardous air pollutants from the firing of No. 2 fuel oil in this boiler.

- 2.1.1.C. Lime silo No. 4 (ID No. 417-503-462) with fabric filter, ep121**
Lime silo No. 5 (ID No. 417-755-462) with fabric filter, ep122
Lime silo No. 6 (ID No. 417-756-462) with fabric filter, ep123

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10 \times P^{0.67}$ Where: E = allowable emission rate in pounds per hour and P = process weight in tons per hour	15A NCAC 2D .0515
Visible emissions	20 percent opacity	15A NCAC 2D .0521

1. 15A NCAC 2D .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:

$$E = 4.10 \times P^{0.67}$$

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

Testing [15A NCAC 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1.1.C.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. Particulate matter emissions from the lime silos shall be controlled by the bagfilters. To assure 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 is 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 2D .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 and time 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 2D .0515 if these records are not maintained.

Reporting [15A NCAC 2Q .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 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 2D .0521: CONTROL OF VISIBLE EMISSIONS

- a. Visible emissions from the lime 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 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1.1.C.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

- c. The requirements for 15A NCAC 2D .0515, as provided in Section 2.1.1.C.1. above, shall be sufficient to meet the requirements of 15A NCAC 2D .0521. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if the requirements of Section 2.1.1.C.1. above are not met.

2.1.2. MILL AREA

2.1.2.A Four duplex cyclones exhausting two each to two fixed throat venturi type wet scrubbers (430 gallons per minute minimum permitted liquid injection rate per unit when wet electrostatic precipitator is not in operation) exhausting one each to one of two modules of a wet electrostatic precipitator (**ID Nos. 339-381-d**) installed on two coal/coke/"off-spec" used oils/"off-spec" used oil sludge/used glycols/No. 6 fuel oil-fired vertical fluidized bed, **phosphate rock calciners Nos. 1 and 2** (54.833 million Btu per hour nominal heat input each; **ID Nos. 339-051 and 339-052**), **ep201 and ep202**

Four duplex cyclones exhausting two each to two fixed throat venturi type wet scrubbers (430 gallons per minute minimum permitted liquid injection rate per unit when wet electrostatic precipitator is not in operation) exhausting one each to one of two modules of a wet electrostatic precipitator (**ID Nos. 339-381-d**) installed on two coal/coke/"off-spec" used oils/"off-spec" used oil sludge/used glycols/No. 6 fuel oil-fired vertical fluidized bed, **phosphate rock calciners units No. 3 and No. 4** (54.833 million Btu per hour nominal heat input each; **ID Nos. 339-053 and 339-054**), **ep203 and ep204**

Two duplex cyclones exhausting to a fixed throat venturi type wet scrubber (250 gallons per minute minimum permitted liquid injection rate per unit) when wet electrostatic precipitator is not in operation exhausting to one module of a wet electrostatic precipitator (**ID Nos. 339-381-d**) installed on a coal/coke/"off-spec" used oils/"off-spec" used oil sludge/used glycols/No. 6 fuel oil-fired vertical fluidized bed, **phosphate rock calciner unit No. 5** (54.833 million Btu per hour nominal heat input; **ID No. 339-055**), **ep205**

Two duplex cyclones exhausting to fixed throat venturi type wet scrubber (430 gallons per minute minimum permitted liquid injection rate per unit when wet electrostatic precipitator is not in operation) exhausting to one module of a wet electrostatic precipitator (**ID Nos. 339-381-d**) installed on a coal/coke/"off-spec" used oils/"off-spec" used oil sludge/used glycols/No. 6 fuel oil-fired vertical fluidized bed, **phosphate rock calciner unit No. 6** (54.833 million Btu per hour nominal heat input; **ID No. 339-056**), **ep206**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM/PM-10	0.08 grains/dscf	15A NCAC 2D.1111 40 CFR 63, Subpart AA
	1,992 pounds per day total from all calciners	15A NCAC 2D .0501(e)
sulfur dioxide	0.75 pounds per million Btu, and 1,026 pounds per day	15A NCAC 2D .0501(e)
visible emissions	40 percent opacity (Calciner Nos. 1, 2, 3, and 4) 20 percent opacity (Calciner Nos. 5 and 6)	15A NCAC 2D .0521
TAPS	Multiple Emission Sources Section 2.2.A.2. and Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D. 0501(e): COMPLIANCE WITH NATIONAL AMBIENT AIR QUALITY STANDARDS

- a. Operation of the six calciners (**ID Nos. 201 to 206**) 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 2D .2601]

- 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.A.1.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501.
- c. The Permittee shall verify the allowable ranges of baseline average values for secondary voltage for the WESP's as described below by annually testing the calciners to determine the PM/PM-10 emission rate in accordance with a testing protocol approved by the DAQ. The Permittee shall also use this testing to demonstrate compliance

with the PM-10 emission limit above (Section 2.1.2.A.1.a.i). Details of the emissions testing and requirements can be found in Section 3 - General Condition JJ. 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 normal production rate for the source test must be approved by the Division of Air Quality in advance of the test. The facility shall establish the normal production rate using the production records over the last production year. A copy of the production records must accompany the request. At least one twelfth of the time during the test the WESP shall be in wash mode. If the results of this test are above the limit given in Section 2.1.2.A.1.a.i. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501.

- d. The Permittee shall demonstrate compliance with the daily sulfur dioxide emission limit above (Section 2.1.2.A.1.a.iii.) by testing one calciner (**ID Nos. 201 through 206**) annually for sulfur dioxide in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and requirements can be found in Section 3 - 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 normal production rate for the source test must be approved by the Division of Air Quality in advance of the test. The facility shall establish the normal production rate using the production records over the last production year. A copy of the production records must accompany the request. If the results of this test are above the limit given in Section 2.1.2.A.1.a.ii. or iii. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- e. To assure 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 2D .501(e) if the sulfur and heat content of the coal is not monitored and recorded.
- f. To assure compliance with Section 2.1.2.A.1.a.ii. above, the Permittee shall monitor the sulfur and heat content of all liquid fuels 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 2D .0501(e) 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 2D .0501(e) 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 2D .0501(e) if these records are not kept or if any exceedances of the limits in Section 2.1.2.A.1.ii. are determined.

Reporting [15A NCAC 2Q .0508(f)]

- i. The Permittee shall submit a summary report of 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.

2. 15A NCAC 2D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart AA, PHOSPHORIC ACID MANUFACTURING PLANTS)

- a. No calciner (**ID Nos. 201 through 206**) shall discharge into the atmosphere gases that contain particulate matter in excess of 0.080 grains per dry standard cubic foot (gr/dscf). [40 CFR 63.602(d)]

Testing [15A NCAC 2D .2601]

- 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.A.2.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.
- c. The Permittee shall verify the allowable minimum secondary voltage for the WESP's as described below by annually testing the calciners for PM/PM-10 in accordance with a testing protocol approved by the DAQ. The Permittee shall also use this testing to demonstrate compliance with the PM-10 emission limit above (Section 2.1.2.A.2.a.). Details of the emissions testing and requirements can be found in Section 3 - General Condition JJ. 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 normal production rate for the source test must be approved by the Division of Air Quality in advance of the test. The facility shall establish the normal production rate using the production records over the last production year. A copy of the production records must accompany the request. During at least one twelfth of the duration of the test the WESP shall be in wash mode. If the results of this test are above the limit given in Section 2.1.2.A.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.

Monitoring/Recordkeeping [15A NCAC 2Q .0508 (f)]

- d. 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 voltageThe Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these records are not kept.
- e. 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 2D .1111 if these records are not kept or if any exceedances of the limits in Section 2.1.2.A.2.a are determined.
- f. The Permittee has chosen to determine the allowed ranges for the above operating parameters by the method described in 40 CFR 63.605(d)(2). The Permittee has submitted the results of previous tests to demonstrate allowed ranges for the parameter values listed above in (f). The allowed ranges are:
 - i. WESP on Calciner No. 1: 37.17 minimum Kv
 - ii. WESP on Calciner No. 2: 36.78 minimum Kv
 - iii. WESP on Calciner No. 3: 40.46 minimum Kv
 - iv. WESP on Calciner No. 4: 38.56 minimum Kv
 - v. WESP on Calciner No. 5: 37.95 minimum Kv
 - vi. WESP on Calciner No. 6: 41.62 minimum KvShould the results of any subsequent annual performance test demonstrate that the allowed minimum is incorrect, the Permittee shall submit those new ranges to the Division of Air Quality for inclusion in this permit. If the

daily averages (for any day for which there are 24 hours of normal (not startup, shutdown or malfunction) operation) of minimum secondary voltage is below the allowable an exceedance will have occurred. The WESP will be allowed a maximum of two hours per day for cleaning the units. During this time the secondary voltage will be allowed to drop to zero. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 for each exceedance.

Reporting [15A NCAC 2Q .0508(f)]

- g. **Performance test report.** As required by 40 CFR 63.10, the Permittee shall report the results of the initial and annual performance tests as part of the notification of compliance status required in §63.9.
- h. **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, the Permittee shall submit a summary report containing the information specified in §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.
- i. **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, 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. 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.

3. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- a. Visible emissions from the calciners Nos. 5 and 6 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 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 2D .2601]

- c. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1.2.A.3.a. or b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

- d. To assure 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 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1.2.A.3. a. or b. above.

If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .0508(f)]

- 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 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 2D .0521 if these records are not maintained.

State-Enforceable Only

4. 15A NCAC 2D .1100: TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REQUIREMENTS

- a. Pursuant to 15A NCAC 2D .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.2 the used oil/used oil sludge/used glycols, combusted 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 Permittee shall perform such testing in accordance with 15A NCAC 2D .2601 and General Condition JJ.
- c. To assure 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 quarterly basis and include the following information:
 - i. The substance content of the used oil for each aggregate during the quarter;
 - 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.

Monitoring/Recordkeeping/Reporting

- d. The Permittee shall submit a summary report of monitoring and recordkeeping activities within 30 days after each calendar year quarter, due and postmarked on or before **January 30** for the preceding three-month period between October and December, **April 30** for the preceding three-month period between January and March, **July 30** for the preceding three-month period between April and June, and **October 30** for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

2.1.2.B. Duplex cyclone and venturi type wet scrubber installed on No. 6 fuel oil-fired phosphate rock dryer (ID No. 332-120), ep210

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur dioxide	300 pounds per day	15A NCAC 2D .0501(e)
Particulate matter	0.215 pounds per ton of phosphate rock dried	15A NCAC 2D .1111 <i>40 CFR 63, Subpart AA</i>
Sulfur dioxide	2.3 pounds per million Btu	15A NCAC 2D .0516
Visible emissions	40 percent opacity	15A NCAC 2D .0521
TAPS	Multiple Emission Sources Section 2.2.A.2. and Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .0501(e): COMPLIANCE WITH NATIONAL AMBIENT AIR QUALITY STANDARDS

- a. Sulfur dioxide (SO₂) emission from the rock dryer (**ep210**) shall be limited to no greater than 300 pounds per day (midnight to midnight).

Testing [15A NCAC 2D .2601]

- b. The Permittee shall conduct an annual stack test to determine the SO₂ emission rate from the rock dryer on a pound per hour (lb/hr) and pound per million Btu (lb/mmBtu) basis. The emission test shall be performed in accordance with a testing protocol approved by NC DAQ and 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 median sulfur content of No. 6 fuel oil received at the facility (from fuel supplier certifications).

The test protocol submitted to NC DAQ prior to the stack test shall include a determination of the normal production rate and normal fuel oil sulfur content, including a summary of actual production and fuel certification records used in the determination. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501(e) if the testing requirements listed above are not met.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

- c. If the hourly emission rate detected by the most recent annual 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 annual 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 SO₂ 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 SO₂ 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 2D .0501(e) if the required monitoring and recordkeeping requirements listed above are not met, or if any calculated SO₂ 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 annual 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 2D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart AA, Phosphoric Acid Manufacturing Plants)

- a. The rock dryer shall not discharge into the atmosphere gases that contain particulate matter in excess of 0.215 pounds per ton of phosphate rock dried. [40 CFR 63.602(c)]

Testing [15A NCAC 2D .2601]

- b. Pursuant to 40 CFR 63.606(d), 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) in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and requirements can be found in Section 3 - 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 normal production rate for the source test must be approved by the DAQ in advance of the test. The facility shall establish the normal production rate using the production records over the last production year. A copy of the production records must accompany the request. 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 2D .1111.
- c. The Permittee shall submit a permit application within 30 days of determining revised allowable operating ranges for the wet scrubber, as listed in Section 2.1.2.B.2.d. below, to incorporate the revised parameter

limitations into the Title V air quality permit. The date of determination shall be the date the Permittee receives approval of the stack test report from the NC DAQ Stationary Source Compliance Branch. Such modification may be made by Administrative Amendment to the Title V air quality permit.

Operating Standards [15A NCAC 2Q .0508(f), 40 CFR 63.604, 40 CFR 63.605(d)(2)]

- d. Emissions from the 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**). The 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 H₂O and 23.5 inches of H₂O.
 - ii. The daily average flow rate of the scrubbing liquid shall be maintained between 873 and 1,181 gallons per minute.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- e. 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 permanently 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). The Permittee shall be deemed in non-compliance with 15A NCAC 2D .1110 if the monitoring/recordkeeping requirements provided 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.d. above.
- f. The Permittee shall install, calibrate, maintain, and operate a monitoring system to monitor and permanently record the daily average mass flow (in short US tons/hr) of product from the dryer. The monitoring system shall have an accuracy of ±5 percent over its operating range. Records shall be maintained in a logbook (written or electronic format). The Permittee shall be deemed in non-compliance with 15A NCAC 2D .1110 if the monitoring/recordkeeping requirements provided above are not met.

Startup, Shutdown, or Malfunctions [15A NCAC 2Q .0508(f)]

- g. The emission limitations and operating parameter requirements provided in Section 2.1.2.B.2. of this permit do not apply during periods of startup, shutdown, or malfunction, as those terms are defined in §63.2, provided that the source is operated in accordance with §63.6(e)(1)(i). The Permittee shall maintain the dates, start times, and end times for all start-ups, shutdowns, and malfunctions.

Reporting [15A NCAC 2Q .0508(f)]

- h. **Performance test report.** As required by 40 CFR 63.10, the Permittee shall report the results of the initial and annual performance tests as part of the notification of compliance status required in §63.9.
- i. **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, the Permittee shall submit a summary report containing the information specified in §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.
- j. **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, 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. 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.

3. 15A NCAC 2D .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 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. 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 2D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

- c. The testing requirement in Section 2.1.2.B.1.b. of this permit is sufficient to demonstrate compliance with this standard. The Permittee shall be deemed in non-compliance with 15A NCAC 2D .0516 if the sulfur dioxide emission rate (in lb/mmBtu) detected during the annual stack test exceeds the limit in Section 2.1.2.B.3.a. above.

4. 15A NCAC 2D .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 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and 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 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

- c. To assure 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 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1.2.B.4.a. above. If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .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 2D .0521 if these records are not maintained.

2.1.2.C Two parallel bagfilters (ID Nos. 341-331 and 341-332) installed on single cyclone (ID No. 341-310) installed on coal/coke pulverizer and thermal dryer system (ID No. 341-300), ep215

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM/PM-10	0.031 grains per dry standard cubic foot	15A NCAC 2D .0524 (40 CFR 60, Subpart Y)
Sulfur dioxide	2 pounds per day	15A NCAC 2D .0501(e)
TAPS	Multiple Emission Sources Section 2.2.A.2. and Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .0524: NSPS 40 CFR 60, SUBPART Y

- 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 2D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR 60 Subpart Y, including Subpart A "General Provisions" for the coal processing system.

Emission Limitations [15A NCAC 2D .0524]

- b. Thermal gases discharged into the atmosphere shall not contain more than 0.031 grains per dscf of particulate matter.
- c. Visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period.

Testing [15A NCAC 2D .2601]

- 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 1.b. and c., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f), 40 CFR 60.253(a)]

- e. The Permittee shall measure the temperature of the gas stream at the exit of the thermal dryer on a continuous basis (CMS). The calibration and calculation methods shall be as described in 40 CFR Part 60.253 and approved by the division before use. The Permittee shall record in a logbook (written or electronic format) the results of the CMS. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if these records are not kept.
- f. Particulate matter emissions from the coal processing system (**ID No. 341-300**) shall be controlled by a cyclone and two bagfilters. To assure 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, cyclones, 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.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524 if the ductwork, cyclones and bagfilters are not inspected and maintained.

Reporting [15A NCAC 2Q .0508(f)]

- g. The Permittee shall submit a summary report of 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.

2. 15A NCAC 2D .0501(e): COMPLIANCE WITH NATIONAL AMBIENT AIR QUALITY STANDARDS

- a. Sulfur dioxide (SO₂) 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 2D .2601]

- 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 2.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501(e).

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

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

- 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), 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:

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM/PM-10	$E=55 \times P^{0.11} - 40$ where E = allowable emission rate in pounds per hour and P = rock throughput in tons per hour	15A NCAC 2D .0515
Visible Emissions	20 percent opacity	15A NCAC 2D .0524 (40 CFR 60 Subpart Y)
Toxic Air Pollutants	Multiple Emission Sources Section 2.2.A.2. and Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .0524: NSPS 40 CFR 60, SUBPART Y

- 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 2D .0524 "New Source Performance Standards" as promulgated in 40 CFR 60, Subpart Y, including Subpart A "General Provisions" or the coal handling and crushing systems.

Emission Limitations [15A NCAC 2D .0524]

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

Testing [15A NCAC 2D .2601]

- 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.1.b., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0524.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f), 40 CFR 60.253(a)]

- d. 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.
- e. 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 2D .0524 if this maintenance is not performed.
- f. 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 and time 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 2D .0524 if these records are not maintained.

**2.1.2.E Calcined rock transfer station (ID No. Belt39 to 70.1), ep220
Calcined rock transfer station (ID No. 339-809-464), ep223**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM/PM-10	$E=55 \times P^{0.11} - 40$ where E = allowable emission rate in pounds per hour and P = rock throughput in tons per hour	15A NCAC 2D .0515
Visible Emissions	40 percent opacity	15A NCAC 2D .0521
Toxic Air Pollutants	Multiple Emission Sources Section 2.2.A.2. and Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .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:

$$E=55 \times P^{0.11} - 40 \quad \text{Where} \quad \begin{array}{l} E = \text{allowable emission rate in pounds per hour} \\ P = \text{process weight in tons per hour} \end{array}$$

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

Testing [15A NCAC 2D .2601]

- 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 2D .0515.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. 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 2D .0515 if this maintenance is not performed.
- d. 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 and time 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 2D .0515 if these records are not maintained.

2. 15A NCAC 2D .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 2D .2601]

- 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., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. 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 2D .0521 if this maintenance is not performed.

- d. 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 and time 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 2D .0521 if these records are not maintained.

**2.1.2.F Fabric filter (ID No. 339-680) installed on calcined rock conveyor transfer station (ID No. Belt55to70.1), ep221
Fabric filter (ID No. 333-180 or 333-190) installed on calcined rock transfer station (ID No. Belt21toBelt23orBelt24), ep222**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM/PM-10	$E=55 \times P^{0.11} - 40$ where E = allowable emission rate in pounds per hour and P = rock throughput in tons per hour	15A NCAC 2D .0515
Visible Emissions	20 percent opacity	15A NCAC 2D .0521
Toxic Air Pollutants	Multiple Emission Sources Section 2.2.A.2. and Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .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:

$$E=55 \times P^{0.11} - 40 \quad \text{Where} \quad \begin{array}{l} E = \text{allowable emission rate in pounds per hour} \\ P = \text{process weight in tons per hour} \end{array}$$

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

Testing [15A NCAC 2D .2601]

- 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 2D .0515.

Monitoring/Recordkeeping [15A NCAC 2Q .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 2D .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 assure 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 is 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 2D .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 and time 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 2D .0515 if these records are not maintained.

Reporting [15A NCAC 2Q .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 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 2D .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 2D .2601]

- 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., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. Particulate matter emissions from the conveyor belt drop point shall be controlled by the bagfilter. To assure 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 is 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 2D .0521 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 and time 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 2D .0521 if these records are not maintained

- 2.1.2.G Fabric filter (ID No. 320-215-478, nominal 1200 square feet of surface area) installed on polymer storage bin (ID No. 224), ep224**
- Fabric filter (ID No. 315-300-478, nominal 3000 square feet of surface area) installed on lime storage silo (ID No. 225), ep225**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM/PM-10	$E = 4.10 \times P^{0.67}$ where E = allowable emission rate in pounds per hour and P = throughput in tons per hour	15A NCAC 2D .0515
Visible Emissions	40 percent opacity	15A NCAC 2D .0521
Toxic Air Pollutants	Multiple Emission Sources Section 2.2.A.2. and Attachment 2	15A NCAC 2D .1100

1. **15A NCAC 2D .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:

$$E = 4.10 \times P^{0.67} \quad \text{Where} \quad \begin{array}{l} E = \text{allowable emission rate in pounds per hour} \\ P = \text{process weight in tons per hour} \end{array}$$

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

Testing [15A NCAC 2D .2601]

- 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 2D .0515.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. Particulate matter emissions from the silos shall be controlled by the bagfilter. To assure 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 is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
- A monthly visual inspection of the system ductwork and material collection unit for leaks; and
 - 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 2D .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:
- The date and time of each recorded action;
 - The results of each inspection;
 - The results of any maintenance performed on the bagfilters; and
 - Any variance from manufacturer's recommendations, if any, and corrections made.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

Reporting [15A NCAC 2Q .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 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 2D .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 2D .2601]

- 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., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. Compliance with the requirements of Section 2.1.2.G.1.c. and d. above will be sufficient to demonstrate compliance with 15A NCAC 2D .0521.

2.1.3 FERTILIZER PRODUCTION AREA

2.1.3.A Diammonium Phosphate Plant No. 2 (ID Nos. 505-104/505-123A, 505-107, 505-114, 505-110, 505-143, 505-111, 505-103, 505-121), ep303

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM/PM-10	64.1 pounds per hour, 238.5 tons per year	15A NCAC 2D .0530 (BACT)
	$E=9.377 \times P^{0.3067}$ where E = allowable emission rate in pounds per hour and P = production and recycle rate of fertilizer	15A NCAC 2D .0507
Sulfur dioxide	15 pounds per hour	15A NCAC 2D .0530 (BACT)
	2.3 pounds per million Btu	15A NCAC 2D .0516
Visible emissions	20 percent opacity	15A NCAC 2D .0521
Total Fluorides	0.055 pounds per ton of equivalent P ₂ O ₅ feed	15A NCAC 2D .1100
	0.060 pounds per ton of equivalent P ₂ O ₅ feed	15A NCAC 2D .1111 40 CFR 63, Subpart BB
	0.058 pounds per ton of equivalent P ₂ O ₅ feed	15A NCAC 2D .0530 (BACT)
TAPS	Multiple Emission Sources Section 2.2.A.2. and Attachment 2	15A NCAC 2D .1100

1. **15A NCAC 2D .1111: Maximum Available Control Technology (40 CFR 63 SUBPART BB, Phosphoric Fertilizer Production Plants)**
 - a. The Permittee shall not cause to be discharged into the atmosphere from any affected source any gases which contain total fluorides in excess of 30 grams/metric ton equivalent P₂O₅ feed (0.060 pounds/ton). [40 CFR 63.622(a)]

Testing [15A NCAC 2D .2601]
 - 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 2.1.3.A 1.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.
 - c. Per 40 CFR 63.606, the Permittee shall conduct a performance test to demonstrate compliance with the applicable emission standard for the diammonium phosphate process line in accordance with 40 CFR 63.626. Details of the emissions testing and requirements can be found in Section 3 - General Condition JJ. The fertilizer plant (**ep303**) 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 plant by the number of hours that plant was operated during that year. The normal production rate for the source test must be approved by NC DAQ in advance of the test. The facility shall establish the normal production rate using the production records over the last production year. A copy of the production records must accompany the request. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111. The results of this testing shall be saved for possible inclusion in future determinations of operating parameter ranges.
 - d. If the Permittee produces monoammonium phosphate in this fertilizer plant (**ep303**) during the life of this permit, then the Permittee shall conduct a performance test to demonstrate compliance with the applicable emission standard for that monoammonium phosphate process line in accordance with 40 CFR 63.626 while producing monoammonium phosphate. The test must be performed before the expiration date of this permit. Details of the emissions testing and requirements can be found in Section 3 - General Condition JJ. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D

.1111. The results of this testing shall be saved for possible inclusion in future determinations of operating parameter ranges.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- e. 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 log (electronic or written form). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if this monitoring system is not maintained, calibrated, operated, and the results recorded.
 - f. 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(c)(3).
 - g. The Permittee shall install, calibrate, maintain, and operate the following monitoring systems installed on the wet scrubbing emission control system:
 - i. A monitoring system that continuously measures and permanently records the pressure drop across each scrubber in the process scrubbing system in 15-minute block averages. The monitoring system shall be certified by the manufacturer to have an accuracy of ± 5 percent over its operating range.
 - ii. A monitoring system that continuously measures and permanently records the flow rate of the scrubbing liquid to each scrubber in the process scrubbing system in 15-minute block averages. The monitoring system shall be certified by the manufacturer to have an accuracy of ± 5 percent over its operating range.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these monitoring systems are not maintained, calibrated, operated, and the results recorded.
- h. The Permittee has chosen to determine the allowed ranges for the above operating parameters by conducting performance tests as described in 40 CFR 63.625(f)(2). The Permittee has submitted the results of previous tests to demonstrate allowed ranges for the parameter values listed above in (f). The allowed ranges are:
 - i. Reactor/Granulator/Tail gas Scrubber - Pressure drop: 7.8 to 21.2 inches of water; flow rate: 2327 to 2829 gpm
 - ii. Cooler Scrubber - Pressure drop: 6.2 to 17.0 inches of water; flow rate: 840 to 1259 gpm
 - iii. Reactor/Granulator acid scrubber - Pressure drop: 7.0 to 18.4 inches of water; flow rate: 660 to 989 gpm (Upon addition of high mole saturation chamber and conversion of this unit to Low mole scrubber this pressure drop will need TBD)
 - iv. Dryer/Scrubber - Pressure drop: 10.5 to 20.0 inches of water; flow rate: 516 to 744 gpm
 - v. Tail gas Scrubber - Pressure drop: 8.0 to 14.5 inches of water; flow rate: 1138 to 1466 gpm
 - vi. High mole (saturation chamber) – flow rate **(TBD)**

Should the results of any subsequent annual performance test demonstrate that the allowed range is incorrect, the Permittee shall submit new ranges to the Division of Air Quality for inclusion in this permit. If the daily averages (for any day for which there are 24 hours of normal (not startup, shutdown or malfunction) operation) of the pressure drop or flow rate to the scrubber exceeds the allowable range an exceedance will have occurred. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 for each exceedance.

Start-up, Shutdown, and Malfunction Procedures [40 CFR 63.6(e)(3), 40 CFR 63.620(e)]

- i. The Permittee shall develop written startup, shutdown, and malfunction plan in accordance with the requirements of §63.6(e)(3). During startup, shutdown, and malfunction events, the Permittee shall comply with the requirements of §63.6(e)(3)(iii)-(iv). A current version of the plan must be maintained on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these requirements are not met.
- j. The emission limitations and operating parameter requirements of this Section of the permit do not apply during periods of startup, shutdown, and malfunction, as those terms are defined in §63.2, provided that the source is operated in accordance with §63.6(e)(1)(i).

Reporting [15A NCAC 2Q .0508(f)]

- k. Performance test report. As required by 40 CFR 63.10, the owner or operator shall report the results of the initial and annual performance tests as part of the notification of compliance status required in 40 CFR 63.9.
- 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, the Permittee shall submit a summary report containing the information specified in §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.

- 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, 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. 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.

2. 15A NCAC 2D .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:

$$E = 9.377 \times P^{0.3067} \quad \text{Where} \quad \begin{array}{l} E = \text{allowable emission rate in pounds per hour} \\ P = \text{process weight in tons per hour} \end{array}$$

Testing [15A NCAC 2D .2601]

- 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 2D .0507.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

- c. The monitoring, recordkeeping, and reporting requirements for demonstrating compliance given in Section 2.1.3.A.1. above are deemed sufficient to demonstrate compliance with 15A NCAC 2D .0507.

3. 15A NCAC 2D .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 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. 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 2D .0516.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. The maximum sulfur content of any fuel oil received and burned in the dryer shall not exceed 2.1 percent by weight. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516 if the sulfur content of the fuel oil exceeds this limit.
- d. To assure compliance, the Permittee shall monitor the sulfur content of the fuel 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 2D .0516 if the sulfur content of the oil is not monitored and recorded.

Reporting [15A NCAC 2Q .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.

4. 15A NCAC 2D .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 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1.3.A.4.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

- c. To assure 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 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1.3.A.4.a. above. If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .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 2D .0521 if these records are not maintained.

5. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD), BACT

- a. For Diammonium Phosphate Plant No. 2 the following table shall describe the emission standards

Emission Source	Pollutant	BACT Technology	Emission Limit
DAP Plant No. 2	Nitrogen oxides	Conventional combustion	14.7 pounds per hour
DAP Plant No. 2	VOC	Good engineering practices	N/A
DAP Plant No. 2	Sulfur dioxide	Scrubbing with process ammonia	15 pounds per hour
DAP Plant No. 2	Total fluorides	Venturi and packed bed scrubbers	0.058 pounds per ton of equivalent P ₂ O ₅ feed
DAP Plant No. 2	TSP/PM-10	Venturi and packed bed scrubbers	64.1 pounds per hour

- b. The emission standards contained in Section 2.1.3.A.5.a. above shall become effective upon the completion of the modification as submitted in Application No. 0700071.04D (i.e., upon completion of the the installation of the dual-mole scrubber). Prior to the completion of the modification the following limits will remain in effect:
 - i. 58.15 tons of particulate matter per year
 - ii. 160.50 tons per year of sulfur dioxide and
 - iii. 6.39 tons per year of total fluorides

Testing [15A NCAC 2Q .0508(c)]

- 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 limits given in Section 2.1.3.A.5.a. and b., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

- d. The Permittee shall demonstrate compliance with the fluoride and particulate emission limits above by testing the DAP No. 2 plant annually for fluoride and particulate in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and requirements can be found in Section 3 - 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 2D .0530.
- e. The Permittee shall demonstrate compliance with the nitrogen oxides and sulfur dioxide emission limits above by testing the DAP No. 2 plant once every five years for nitrogen oxides and sulfur dioxide in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and requirements can be found in Section 3 - 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 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- f. The Permittee shall demonstrate compliance with the fluorides and particulate matter 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.A.1.e. through h. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

- g. The Permittee shall submit a summary report of monitoring, testing 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

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7. 15A NCAC 2D .1100: TOXIC AIR POLLUTANT EMISSION LIMITATIONS AND REQUIREMENTS

- a. In accordance with the approved application for an air toxic compliance demonstration and to insure that limits described in Section 2.2.A.2 are not exceeded, the equivalent P₂O₅ feed rate to the Diammonium Phosphate Plant No. 2 (ep303) shall not exceed 2,563 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 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1.3.A.7.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1100.

Monitoring/Recordkeeping

- c. The Permittee shall use the production log (written or electronic form) (as mandated in Section 2.1.3.A.1.e. above) to document the compliance with the above requirement. Failure to maintain the production log or any instances of production rates above the above limit shall be deemed noncompliance with 15A NCAC 2D .1100.

Reporting

- d. The Permittee shall submit a summary report of monitoring and recordkeeping activities within 30 days after each calendar year quarter, due and postmarked on or before **January 30** for the preceding three-month period between October and December, **April 30** for the preceding three-month period between January and March, **July 30** for the preceding three-month period between April and June, and **October 30** for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

2.1.3.B Diammonium Phosphate Plant No. 3 (ID Nos. 511-085, 511-086, 511-070, 511-032, 511-025, 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), ep302

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM/PM-10	72.0 tons per year	15A NCAC 2Q .0317(a)(1) <i>(Avoidance of 15A NCAC 2D .0530)</i>
	$E=9.377 \times P^{0.3067}$ where E = allowable emission rate in pounds per hour and P = production and recycle rate of fertilizer	15A NCAC 2D .0507
sulfur dioxide	226.2 tons per year	15A NCAC 2Q .0317(a)(1) <i>(Avoidance of 15A NCAC 2D .0530)</i>
	2.3 pounds per million Btu	15A NCAC 2D .0516
visible emissions	20 percent opacity	15A NCAC 2D .0521
Total Fluorides	0.060 pounds per ton of equivalent P ₂ O ₅ feed (during DAP or MAP production)	15A NCAC 2D .1111 <i>40 CFR 63, Subpart BB</i>
	0.150 pounds per ton of equivalent P ₂ O ₅ feed (during GTSP production)	
	0.058 pounds per ton of equivalent P ₂ O ₅ feed, BACT	15A NCAC 2D .0530
TAPS	Multiple Emission Sources Section 2.2.A.2. and Attachment 2	15A NCAC 2D .1100

1. **15A NCAC 2D .1111: Maximum Achievable Control Technology (40 CFR PART 63 Subpart BB, Phosphoric Fertilizer Production Plants)**
 - a. The Permittee shall not cause to be discharged into the atmosphere from any affected source any gases that contain total fluorides in excess of:
 - i. 30 grams/metric ton equivalent P₂O₅ feed (0.060 pounds/ton) during either monoammonium phosphate (MAP) or diammonium phosphate (DAP) production [40 CFR 63.622(a)]
 - ii. 75 grams/metric ton equivalent P₂O₅ feed (0.150 pounds/ton) during granular triple superphosphate (GTSP) production [40 CFR 63.622(b)]
 - Testing** [15A NCAC 2D .2601]
 - 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 2.1.3.B.1.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.
 - c. Per 40 CFR 63.606, the Permittee shall conduct a performance test to demonstrate compliance with the applicable emission standard for each DAP and/or MAP process line in accordance with 40 CFR 63.626. Details of the emissions testing and requirements can be found in Section 3 - General Condition JJ. The fertilizer plant (ep302) 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 plant by the number of hours that plant was operated during that year. The normal production rate for the source test must be approved by NC DAQ in advance of the test. The facility shall establish the normal production rate using the production records over the last production year. A copy of the production records must accompany the request. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111. The results of this testing shall be saved for possible inclusion in future determinations of operating parameter ranges.
 - d. If the Permittee produces MAP in this fertilizer plant (ep302) during the life of this permit, then the Permittee shall conduct a performance test to demonstrate compliance with the applicable emission standard for that MAP process line in accordance with 40 CFR 63.626 while producing MAP. The test must be performed before the expiration date of this permit. Details of the emissions testing and requirements can be found in Section 3 -

General Condition JJ. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111. The results of this testing shall be saved for possible inclusion in future determinations of operating parameter ranges.

- e. If the Permittee produces granular triple super phosphate in this fertilizer plant (ep302) during the life of this permit, then the Permittee shall conduct a performance test to demonstrate compliance with the applicable emission standard for that granular triple super phosphate process line in accordance with 40 CFR 63.626 while producing granular triple super phosphate. The test must be performed before the expiration date of this permit. Details of the emissions testing and requirements can be found in Section 3 - General Condition JJ. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111. The results of this testing shall be saved for possible inclusion in future determinations of operating parameter ranges.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- f. 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 log (electronic or written form). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if this monitoring system is not maintained, calibrated, operated, and the results recorded.
- g. 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 by proceeding according to 40 CFR 63.626(c)(3).
- h. The Permittee shall install, calibrate, maintain, and operate the following monitoring systems installed on the wet scrubbing emission control system:
 - i. A monitoring system that continuously measures and permanently records the pressure drop across each scrubber in the process scrubbing system in 15-minute block averages. The monitoring system shall be certified by the manufacturer to have an accuracy of ± 5 percent over its operating range.
 - ii. A monitoring system that continuously measures and permanently records the flow rate of the scrubbing liquid to each scrubber in the process scrubbing system in 15-minute block averages. The monitoring system shall be certified by the manufacturer to have an accuracy of ± 5 percent over its operating range.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these monitoring systems are not maintained, calibrated, operated, and the results recorded.

- i. The Permittee has chosen to determine the allowed ranges for the above operating parameters by the method described in 40 CFR 63.625(f)(2). The Permittee has submitted the results of previous tests to demonstrate allowed ranges for the parameter values listed as follows:
 - i. Low Mole (scrubber) - Pressure drop: 9.4 to 16.1 inches of water; flow rate: 867 to 1300 gpm
 - ii. High Mole (saturation chamber) - flow rate: 1000 to 1650 gpm;
 - iii. Dust scrubber - Pressure drop: 4.4 to 9.0 inches of water; flow rate: 300 to 600 gpm
 - iv. Cooler scrubber - Pressure drop: 4.3 to 11.3 inches of water; flow rate: 400 to 650 gpm
 - v. Dryer No. 1 scrubber - Pressure drop: 6.8 to 10.2 inches of water; flow rate: 600 to 900 gpm
 - vi. Dryer No. 2 scrubber - Pressure drop: 2.8 to 6.1 inches of water; flow rate: 357 to 536 gpm
 - vii. Tailgas scrubber - Pressure drop: 3.4 to 5.1 inches of water; flow rate: 1066 to 1600 gpm

Should the results of any subsequent annual performance test demonstrate that allowed range is incorrect, the Permittee shall submit those new ranges to the DAQ for inclusion in this permit. If the daily averages (for any day for which there are 24 hours of normal (not startup, shutdown or malfunction) operation) of the pressure drop or flow rate to the scrubber exceeds the allowable range an exceedance will have occurred. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 for each exceedance.

Start-up, Shutdown, and Malfunction Procedures [40 CFR 63.6(e)(3), 40 CFR 63.620(e)]

- j. The Permittee shall develop written startup, shutdown, and malfunction plan in accordance with the requirements of §63.6(e)(3). During startup, shutdown, and malfunction events, the Permittee shall comply with the requirements of §63.6(e)(3)(iii)-(iv). A current version of the plan must be maintained on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these requirements are not met.
- k. The emission limitations and operating parameter requirements of this Section of the permit do not apply during periods of startup, shutdown, and malfunction, as those terms are defined in §63.2, provided that the source is operated in accordance with §63.6(e)(1)(i).

Reporting [15A NCAC 2Q .0508(f)]

- l. **Performance test report.** As required by 40 CFR 63.10, the owner or operator shall report the results of the initial and annual performance tests as part of the notification of compliance status required in 40 CFR 63.9.
- m. **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, the Permittee shall submit a summary report containing the information specified in §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.
- n. **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, 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. 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.

2. 15A NCAC 2D .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:

$$E = 9.377 \times P^{0.3067} \quad \text{Where} \quad \begin{array}{l} E = \text{allowable emission rate in pounds per hour} \\ P = \text{process weight in tons per hour} \end{array}$$

Testing [15A NCAC 2D .2601]

- 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 2D .0507.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

- c. The monitoring, recordkeeping, and reporting requirements for demonstrating compliance given in Section 2.1.3.C.1.h and i. above are deemed sufficient to demonstrate compliance with 15A NCAC 2D .0507.

3. 15A NCAC 2D .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 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. 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 2D .0516.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. The maximum sulfur content of any fuel oil received and burned in the dryer shall not exceed 2.1 percent by weight. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516 if the sulfur content of the fuel oil exceeds this limit.
- d. To assure compliance, the Permittee shall monitor the sulfur content of the fuel 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 2D .0516 if the sulfur content of the oil is not monitored and recorded.

Reporting [15A NCAC 2Q .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.

4. 15A NCAC 2D .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 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1.3.B.4.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

- c. To assure 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 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1.3.B.4.a. above.If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .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 2D .0521 if these records are not maintained.

5. 15A NCAC 2D .0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD), BACT

- a. For Diammonium Phosphate Plant No. 3 the following table shall describe the emission standards

Emission Source	Pollutant	BACT Technology	Emission Limit
Diammonium Phosphate Plant No. 3	Fluoride (F)	Dual mole scrubbing	14.7 pounds per hour

- b. The emission standards contained in 5.a above shall only become effective upon the completion of the modification as submitted in Application No. 0700071.04D. This modification will become complete upon the installation of the dual mole scrubber on DAP No. 2. Prior to the completion of the modification the limits of 4.34 tons per year of total fluorides [15A NCAC 2Q .0317(a)(1)] will remain in effect.

Testing [15A NCAC 2Q .0508(c)(9)]

- 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 limits given in Section 2.1.2.B.5.a and b., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

- d. The Permittee shall demonstrate compliance with the fluoride and particulate emission limits above by testing the DAP No. 3 plant annually for fluoride and particulate in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and requirements can be found in Section 3 - 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 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- e. 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 2D .0530 if these records are not maintained.
- f. 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.1.f. through i. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if these records are not maintained.

Reporting [15A NCAC 2Q .0508(f)]

- g. The Permittee shall submit a summary report of monitoring, testing, 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.

State-Enforceable Only

7. 15A NCAC 2D .1100: TOXIC AIR POLLUTANT EMISSION LIMITATIONS AND REQUIREMENTS

- a. In accordance with the approved application for an air toxic compliance demonstration and to insure that limits described in Section 2.2.A.2 are not exceeded, the following operational limits shall not be exceeded:
 - i. The equivalent P_2O_5 feed rate to the Diammonium Phosphate Plant No. 3 (ep302) shall not exceed 714 tons per calendar day when producing GTSP.
 - ii. The equivalent P_2O_5 feed rate to the Diammonium Phosphate Plant No. 3 (ep302) shall not exceed 1188 tons per calendar day when producing MAP.
 - iii. The equivalent P_2O_5 feed rate to the Diammonium Phosphate Plant No. 3 (ep302) shall not exceed 1188 tons per calendar day when producing DAP.
 - iv. The equivalent P_2O_5 feed rate to the Diammonium Phosphate Plant No. 3 (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 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1.3.B 7.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1100.

Monitoring/Recordkeeping

- c. The Permittee shall use the production log (written or electronic form) (as mandated in Section 2.1.3.B 1.f.) to document the compliance with the above requirement. Failure to maintain the production log or any instances of production rates above the above limit shall be deemed noncompliance with 15A NCAC 2D .1100.

Reporting

- d. The Permittee shall submit a summary report of monitoring and recordkeeping activities within 30 days after each calendar year quarter, due and postmarked on or before **January 30** for the preceding three-month period between October and December, **April 30** for the preceding three-month period between January and March, **July 30** for the preceding three-month period between April and June, and **October 30** for the preceding three-month period between July and September. 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*) with associated Mist Eliminator on a Packed Tower Cooler (ID No. 454-1), ep304 Filter Press No. 1, Back-up Unit (ID No. AFP-1), ep305

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Visible emissions	40 percent opacity	15A NCAC 2D .0521
Total Fluorides	<u>Affected Source: AFP-1, only</u> No control	15A NCAC 2D .0530
Particulate matter	$E = 55 \times P^{0.11} - 40$ Where E = allowable emission rate in pounds per hour and P = process weight in tons per hour	15A NCAC 2D .0515
TAPS	Multiple Emission Sources Section 2.2.A.2. and Attachment 2 and 2.1.3.D 4.	15A NCAC 2D .1100

1. 15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS

- a. Visible emissions from any emission point 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 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1.3.C.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

- c. To assure 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:
 - a. 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
 - b. Demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1.3.C.1.a. above. If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.
 - d. To assure 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 is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include an annual visual external inspection of the mist eliminator (**ID No. 454-1**) for leaks. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521 if the system is not inspected and maintained.

Recordkeeping [15A NCAC 2Q .0508(f)]

- e. The results of the monitoring, inspection, and maintenance activities 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 2D .0521 if these records are not maintained.

2. **15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD) BACT**
 - a. For the Filter Press - (ID No. AFP-1, ep305) BACT has been determined to be uncontrolled total fluorides.
3. **15A NCAC 2D .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:

$$E = 55 \times P^{0.11} - 40 \quad \text{Where} \quad \begin{array}{l} E = \text{allowable emission rate in pounds per hour} \\ P = \text{process weight in tons per hour} \end{array}$$

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

Testing [15A NCAC 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1.3.C.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

Monitoring/Recordkeeping/ Reporting [15A NCAC 2Q .0508(f)]

- c. No monitoring, recordkeeping, or reporting is necessary to verify compliance with 15A NCAC 2D .0515.

State-Enforceable Only

4. **15A NCAC 2D .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.2 are not exceeded, the equivalent P₂O₅ 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 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 log (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 within 30 days after each calendar year quarter, due and postmarked on or before **January 30** for the preceding three-month period between October and December, **April 30** for the preceding three-month period between January and March, **July 30** for the preceding three-month period between April and June, and **October 30** for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

2.1.3.D GTSP Rock Storage Silo (ID No. 511-045), ep310

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 55 \times P^{0.11} - 40$ Where E = allowable emission rate in pounds per hour and P = process weight in tons per hour	15A NCAC 2D .0515
visible emissions	20 percent opacity	15A NCAC2D .0521
TAPS	Multiple Emission Sources Section 2.2.A.2. and Attachment 2	15A NCAC 2D .1100

1. **15A NCAC 2D .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:

$$E = 55 \times P^{0.11} - 40$$

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 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1.3.D.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. Particulate matter emissions from the silo shall be controlled by the bagfilter. To assure 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 is no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
- A monthly visual inspection of the system ductwork and material collection unit for leaks; and
 - 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 2D .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:
- The date and time of each recorded action;
 - The results of each inspection;
 - The results of any maintenance performed on the bagfilters; and
 - Any variance from manufacturer's recommendations, if any, and corrections made.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if these records are not maintained.

Reporting [15A NCAC 2Q .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 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 2D .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 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1.3.D 2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

- c. The requirements for 15A NCAC 2D .0515 shall be sufficient to meet the requirements of 15A NCAC 2D .0521.

2.1.4 SUPERPHOSPHORIC ACID PLANT AREA

2.1.4.A Superphosphoric acid plant No. 1 (ID Nos. 451-418 and 451-409), ep330 Superphosphoric acid plant No. 2 (ID Nos. 451-701 and 451-809), ep331

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur dioxide	30 pounds per day Plant No. 1	15A NCAC 2D .0501(e)
	50 pounds per day Plant No. 2	
Total Fluorides	0.010 pounds per ton of equivalent P ₂ O ₅ feed	15A NCAC 2D .1111 40 CFR 63 Subpart AA
TAPS	Multiple Emission Sources Section 2.2.A.2. and Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart AA, PHOSPHORIC ACID MANUFACTURING PLANTS)

- a. No superphosphoric acid plant (ID Nos. 451-418 and 451-409; 451-701 and 451-809) shall discharge into the atmosphere gases that contain total fluorides in excess of 5.0 grams per metric ton of equivalent P₂O₅ feed (0.010 pound/ton). [40 CFR 63.602(b)(1)]

Testing [15A NCAC 2D .2601]

- 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.A.1.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.
- c. Per 40 CFR 63.606, the Permittee shall conduct a performance test to demonstrate compliance with the applicable emission standard for the superphosphoric acid plant process line in accordance with 40 CFR 63.626. Details of the emissions testing and requirements can be found in Section 3 - General Condition JJ. Each superphosphoric acid plant (**ep330, ep331**) 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 plant by the number of hours that plant was operated during that year. The normal production rate for the source test must be approved by NC DAQ in advance of the test. The facility shall establish the normal production rate using the production records over the last production year. A copy of the production records must accompany the request. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111. The results of this testing shall be saved for possible inclusion in future determinations of operating parameter ranges.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- d. 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 log (electronic or written form). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if this monitoring system is not maintained, calibrated, operated, and the results recorded.
- e. The Permittee shall maintain a daily record of equivalent P₂O₅ feed by first determining the total mass rate in ton/hour of phosphorus bearing feed using a monitoring system for measuring mass flow rate which meets the requirements of Section 2.1.4.A.1.d. and then by proceeding according to 40 CFR 63.626(c)(3).
- f. The Permittee shall install, calibrate, maintain, and operate the following monitoring systems installed on the wet scrubbing emission control system:
 - i. A monitoring system which continuously measures and permanently records the pressure drop across each scrubber in the process scrubbing system in 15-minute block averages. The monitoring system shall be certified by the manufacturer to have an accuracy of ±5 percent over its operating range.
 - ii. A monitoring system that continuously measures and permanently records the flow rate of the scrubbing liquid to each scrubber in the process scrubbing system in 15-minute block averages. The monitoring system shall be certified by the manufacturer to have an accuracy of ±5 percent over its operating range.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these monitoring systems are not maintained, calibrated, operated, and the results recorded.

- g. The Permittee has chosen to determine the allowed ranges for the above operating parameters by the method described in 40 CFR 63.605(d)(2). The Permittee has submitted the results of previous tests to demonstrate allowed ranges for the parameter values listed in Section 2.1.4.A 1.f. The allowed ranges are:
 - i. SPA No. 1 - pressure drop: 1.1 to 2.8 inches of water; flow rate: 81 to 163 gpm
 - ii. SPA No. 2 - pressure drop: 1.1 to 2.8 inches of water; flow rate: 112 to 163 gpmShould the results of any subsequent annual performance test demonstrate that the allowed range is incorrect, the Permittee shall submit those new ranges to the Division of Air Quality for inclusion in this permit. If the daily averages (for any day for which there are 24 hours of normal (not startup, shutdown or malfunction) operation) of the pressure drop or flow rate to the scrubber exceeds the allowable range an exceedance will have occurred. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 for each exceedance.

Start-up, Shutdown, and Malfunction Procedures [40 CFR 63.6(e)(3), 40 CFR 63.600(e)]

- h. The Permittee shall develop written startup, shutdown, and malfunction plan in accordance with the requirements of §63.6(e)(3). During startup, shutdown, and malfunction events, the Permittee shall comply with the requirements of §63.6(e)(3)(iii)-(iv). A current version of the plan must be maintained on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these requirements are not met.
- i. The emission limitations and operating parameter requirements of Section 2.1.4.A.1. of this permit do not apply during periods of startup, shutdown, and malfunction, as those terms are defined in §63.2, provided that the source is operated in accordance with §63.6(e)(1)(i).

Reporting [15A NCAC 2Q .0508(f)]

- j. Performance test report. As required by 40 CFR 63.10, the Permittee shall report the results of the initial and annual performance tests as part of the notification of compliance status required in §63.9.
- k. 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, the Permittee shall submit a summary report containing the information specified in §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.
- l. 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, 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. 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.

2. 15A NCAC 2D. 0501(e): 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**) emission points 330, or 331) shall be limited as follows:
 - i. Superphosphoric acid plant No. 1 (**ID Nos. 451-418 and 451-409**) Emission Point 330) 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**) Emission Point 331) shall be limited to 50 pounds per calendar day of sulfur dioxide emissions.

Testing [15A NCAC 2Q .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.A 2.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501.
- 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 in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and requirements can be found in Section

3 - 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 2D .0501(e).

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

- d. The reporting requirements of Section 2.1.4. A.1.h shall be sufficient to demonstrate compliance with Section 2.1.4.A.2.a above

2.1.4.B 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) ep332

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur dioxide	400 pounds per day (combined Plant Nos. 3 and 4)	15A NCAC 2D .0530 BACT
Total Fluorides	0.010 pounds per ton of equivalent P ₂ O ₅ feed	15A NCAC 2D .1111 (40 CFR 63, Subpart AA)
TAPS	Multiple Emission Sources Section 2.2.A.2. and Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart AA, PHOSPHORIC ACID MANUFACTURING PLANTS)

- a. No superphosphoric acid plant shall discharge into the atmosphere gases that contain total fluorides in excess of 5.0 grams per metric ton of equivalent P₂O₅ feed (0.010 pound/ton). [40 CFR 63.602 (b)(1)]

Testing [15A NCAC 2Q .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.B.1.a. the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.
- c. Per 40 CFR 63.606, the Permittee shall conduct a performance test to demonstrate compliance with the applicable emission standard for the superphosphoric acid plant process line in accordance with 40 CFR 63.626. Details of the emissions testing and requirements can be found in Section 3 - General Condition JJ. The combined superphosphoric acid plant exhausts (**ep332**) 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 plant by the number of hours that plant was operated during that year. The normal production rate for the source test must be approved by NC DAQ in advance of the test. The facility shall establish the normal production rate using the production records over the last production year. A copy of the production records must accompany the request. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111. The results of this testing shall be saved for possible inclusion in future determinations of operating parameter ranges.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- d. 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 log (electronic or written form). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if this monitoring system is not maintained, calibrated, operated, and the results recorded.
- e. The Permittee shall maintain a daily record of equivalent P₂O₅ feed by first determining the total mass rate in ton/hour of phosphorus bearing feed using a monitoring system for measuring mass flow rate which meets the requirements of paragraph (c) of this section and then by proceeding according to 40 CFR 63.626(c)(3).
- f. The Permittee shall install, calibrate, maintain, and operate the following monitoring systems installed on the wet scrubbing emission control system:

- i. A monitoring system that continuously measures and permanently records the pressure drop across each scrubber in the process scrubbing system in 15-minute block averages. The monitoring system shall be certified by the manufacturer to have an accuracy of ± 5 percent over its operating range.
 - ii. A monitoring system that continuously measures and permanently records the flow rate of the scrubbing liquid to each scrubber in the process scrubbing system in 15-minute block averages. The monitoring system shall be certified by the manufacturer to have an accuracy of ± 5 percent over its operating range.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these monitoring systems are not maintained, calibrated, operated, and the results recorded.
- g. The Permittee has chosen to determine the allowed ranges for the above operating parameters by the method described in 40 CFR 63.605(d)(2). The Permittee has submitted the results of previous tests to demonstrate allowed ranges for the parameter values listed above in Section 2.1.4.B.1.f. The allowed ranges for SPA No. 3/4 are: pressure drop: 0.7 to 1.8 inches of water; flow rate: 115 to 147 gpm. Should the results of any subsequent annual performance test demonstrate that the allowed range is incorrect, the Permittee shall submit those new ranges to NC DAQ for inclusion in this permit. If the daily averages (for any day for which there are 24 hours of normal (not startup, shutdown or malfunction) operation) of the pressure drop or flow rate to the scrubber exceeds the allowable range an exceedance will have occurred. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 for each exceedance.

Start-up, Shutdown, and Malfunction Procedures [40 CFR 63.6(e)(3), 40 CFR 63.600(e)]

- h. The Permittee shall develop written startup, shutdown, and malfunction plan in accordance with the requirements of §63.6(e)(3). During startup, shutdown, and malfunction events, the Permittee shall comply with the requirements of §63.6(e)(3)(iii)-(iv). A current version of the plan must be maintained on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these requirements are not met.
- i. The emission limitations and operating parameter requirements of Section 2.1.4.B.1. of this permit do not apply during periods of startup, shutdown, and malfunction, as those terms are defined in §63.2, provided that the source is operated in accordance with §63.6(e)(1)(i).

Reporting [15A NCAC 2Q .0508(f)]

- j. Performance test report. As required by 40 CFR 63.10, the Permittee shall report the results of the initial and annual performance tests as part of the notification of compliance status required in §63.9.
- k. 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, the Permittee shall submit a summary report containing the information specified in §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.
- l. 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, 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. 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.

2. 15A NCAC 2D. 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	BACT Technology	Emission Limit
Superphosphoric Acid Plant Nos. 3 and 4 (combined)	Sulfur Dioxide	Wet Scrubbing	400 pounds per day

Testing [15A NCAC 2Q .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.2.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .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 in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and requirements can be found in Section 3 - 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 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .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, the pressure drop across each wet scrubber, and flow rate of scrubbing liquid to each scrubber as described in Section 2.1.4.B 1.d through g. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if these records are not maintained.

Reporting [15A NCAC 2Q .0508 (f)]

- e. The Permittee shall submit a summary report of monitoring, testing 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

**2.1.4.C Potassium Permanganate Storage Silo (ID No. 453-485), ep340
Clay or Limestone Additive Storage Silo (ID No. 453-468), ep341**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	$E = 4.10 \times P^{0.67}$ Where E = allowable emission rate in pounds per hour and P = process weight in tons per hour	15A NCAC 2D .0515
Visible emissions	20 percent opacity	15A NCAC 2D .0521
TAPS	Multiple Emission Sources Section 2.2.A.2. and Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .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:

$$E = 4.10 \times P^{0.67} \quad \text{Where} \quad \begin{array}{l} E = \text{allowable emission rate in pounds per hour} \\ P = \text{process weight in tons per hour} \end{array}$$

Testing [15A NCAC 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. 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 2D .0515.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. Particulate matter emissions from the silo shall be controlled by the bagfilter. To assure 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 is 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 2D .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 and time 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 2D .0515 if these records are not maintained.

Reporting [15A NCAC 2Q .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 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 2D .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 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. 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 2D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

- c. Satisfying the requirements for 15A NCAC 2D .0515 shall be sufficient to meet the requirements of 15A NCAC 2D .0521.

2.1.4.D 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:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Total Fluorides	0.0005 lb/hr/ton P ₂ O ₅ cured or stored for GTSP production	15A NCAC 2D .1111 40 CFR 63 Subpart BB
TAPS	Multiple Emission Sources Section 2.2.A.2. and Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart BB –PHOSPHORIC FERTILIZER PRODUCTION PLANTS)

- a. The Permittee shall not cause to be discharged into the atmosphere from any affected source any gases which contain total fluorides in excess of 0.250 grams/hr/metric ton equivalent P₂O₅ stored (0.0005 pounds/hr/ton stored). [40 CFR 63.622(c)(1)]

Operating Standard [15A NCAC 2Q .0508(f)]

- b. The Permittee shall not ship granular triple super phosphate (GTSP) produced within the previous 72 hours from any warehouse [40 CFR 63.622(c)(2)].

Testing [15A NCAC 2D .2601]

- 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 2.1.4.D.1.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501.
- d. Per 40 CFR 63.606, the Permittee shall conduct a performance test to demonstrate compliance with the applicable emission standard for the warehouse in accordance with 40 CFR 63.626. Details of the emissions testing and requirements can be found in Section 3 - General Condition JJ. The warehouse (**ep390**) shall be tested annually. If no GTSP production has occurred during the year, then the only requirement is to state that no production has occurred on any report. Upon resumption of GTSP production, the Permittee shall conduct the performance tests only when the total GTSP is at least 10 percent of the building capacity, fresh GTSP is at least 6 percent of the total amount of GTSP, or if the previous parameters exceed production capabilities of fresh GTSP, then fresh GTSP is equal to at least 5 days maximum production. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111. The results of this testing shall be saved for possible inclusion in future determinations of operating parameter ranges.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- e. The Permittee shall maintain an accurate account of granular triple super phosphate in storage to permit the determination of the amount of equivalent P_2O_5 stored. The Permittee shall maintain a daily record of total equivalent P_2O_5 stored by multiplying the percentage P_2O_5 content, as determined by 40 CFR 63.626(d)(3), times the total mass of granular triple super phosphate stored. The Permittee shall develop for approval by the Director a site-specific methodology including sufficient recordkeeping for the purposes of demonstrating compliance with 40 CFR 63.622(c)(2) or 40 CFR 63.623(c)(2), as applicable. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if the records are not maintained, or if the site-specific methodology is not submitted.

Start-up, Shutdown, and Malfunction Procedures [40 CFR 63.6(e)(3), 40 CFR 63.620(e)]

- f. The Permittee shall develop written startup, shutdown, and malfunction plan in accordance with the requirements of §63.6(e)(3). During startup, shutdown, and malfunction events, the Permittee shall comply with the requirements of §63.6(e)(3)(iii)-(iv). A current version of the plan must be maintained on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these requirements are not met.
- g. The emission limitations and operating parameter requirements of this Section of the permit do not apply during periods of startup, shutdown, and malfunction, as those terms are defined in §63.2, provided that the source is operated in accordance with §63.6(e)(1)(i).

Reporting [15A NCAC 2Q .0508(f)]

- h. **Performance test report.** As required by 40 CFR 63.10, the owner or operator shall report the results of the initial and annual performance tests as part of the notification of compliance status required in 40 CFR 63.9.
- i. **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, the Permittee shall submit a summary report containing the information specified in §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.
- j. **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, 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. 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.

2.1.5 PHOSPHORIC ACID PRODUCTION AREA

2.1.5.A Phosphoric Acid Train No. 1

(ID Nos. 421-201, 421-000, 421-325, 421-327, 421-223, 421-232, 421- 218, 421-330) ep401
(ID Nos. 441-000, 441-015), ep402
(ID No. 441-031), ep403

Phosphoric Acid Train No. 2

(ID Nos. 422-201, 422-000, 422-325, 422-327, 422-223, 422-232, 422- 218, 422-330), ep404
(ID Nos. 442-000, 442-015), ep405

Phosphoric Acid Train No. 3

(ID Nos. 423-201, 423-000, 423-325, 423-327, 423-223, 423-232, 423- 218, 423-330), ep406
(ID No. 443-000), ep407
(ID No. 444-031), ep408

Phosphoric Acid Train No. 4

(ID Nos. 424-201, 424-000, 424-325, 424-327, 424-223, 424-232, 424- 218, 424-330), ep409
(ID Nos. 444-000, 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:

Regulated Pollutant	Limits/Standards	Applicable Regulation
sulfur dioxide	486 pounds per day (Train No. 1 - measured at cross flow scrubber stacks)	15A NCAC 2D .0501(e) 15A NCAC 2D .0530 BACT
	486 pounds per day (Train No. 2 - measured at cross flow scrubber stacks)	
	961 pounds per day (Train No. 3 - measured at crossflow scrubber stacks)	15A NCAC 2D .0501(e)
	961 pounds per day (Train No. 4 - measured at cross flow scrubber stacks)	
Total Reduced Sulfur	2207.61 tons per year (Trains 1, 2, 3 and 4)	15A NCAC 2Q .0317(a)(1) PSD Avoidance limit
	1728.3 tons per year (Trains 1 and 2)(also Train 4 when using calcined rock)	
Hydrogen sulfide	4.24 pounds per ton P ₂ O ₅ input (when processing calcined rock – Trains 1, 2 and 4)	15A NCAC 2Q .0317(a)(1) PSD Avoidance limit
	510 pounds per day (Train 4) 435 pounds per day (Train 3)	15A NCAC 2D .0530 (BACT)
Total Fluorides	10.0 gram/metric feed per ton of equivalent P ₂ O ₅ feed (0.020 lb/ton)	15A NCAC 2D .1111 40 CFR 63, Subpart AA 15A NCAC 2D .0530 BACT (Trains 1 , 2, 3, and 4)
TAPS	Multiple Emission Sources Section 2.2 A.2., attachment 2; Section 2.1.5.A 5. and 6.	15A NCAC 2D .1100

1. **15A NCAC 2D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart AA – PHOSPHORIC ACID MANUFACTURING PLANTS)**

- a. Phosphoric acid trains shall not discharge any gases which contain total fluorides in excess of 10.0 gram/metric ton of equivalent P_2O_5 feed (0.020 lb/ton). [40 CFR 63.602(a)]

Testing [15A NCAC 2D .2601]

- 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., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.
- c. Per 40 CFR 63.606, the Permittee shall conduct a performance test to demonstrate compliance with the applicable emission standard for the phosphoric acid plant process line in accordance with 40 CFR 63.626. Details of the emissions testing and requirements can be found in Section 3 - General Condition JJ. Each phosphoric acid train 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 plant by the number of hours that plant was operated during that year. The normal production rate for the source test must be approved by the NC DAQ in advance of the test. The facility shall establish the normal production rate using the production records over the last production year. A copy of the production records must accompany the request. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111. The results of this testing shall be saved for possible inclusion in future determinations of operating parameter ranges.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- d. 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 log (electronic or written form). The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if this monitoring system is not maintained, calibrated, operated, and the results recorded.
- e. 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 the monitoring system for measuring mass flow rate by proceeding according to 40 CFR 63.626(c)(3).
- f. The Permittee shall install, calibrate, maintain, and operate the following monitoring systems installed on the wet scrubbing emission control system:
- A monitoring system that continuously measures and permanently records the pressure drop across each scrubber in the process scrubbing system in 15-minute block averages. The monitoring system shall be certified by the manufacturer to have an accuracy of ± 5 percent over its operating range.
 - A monitoring system that continuously measures and permanently records the flow rate of the scrubbing liquid to each scrubber in the process scrubbing system in 15-minute block averages. The monitoring system shall be certified by the manufacturer to have an accuracy of ± 5 percent over its operating range.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these monitoring systems are not maintained, calibrated, operated, and the results recorded.
- g. The Permittee has chosen to determine the allowed ranges for the above operating parameters by the method described in 40 CFR 63.605(d)(2). The Permittee has submitted the results of previous tests to demonstrate allowed ranges for the parameter values listed above in (f). The allowed ranges are:
- Crossflow scrubbers Nos. 1 to 3 - pressure drop: 0.5 to 3.5 inches of water; flow rate: 700 to 1135 gpm
 - Crossflow scrubber No. 4 - pressure drop: 0.5 to 3.5 inches of water; flow rate: 700 to 1135 gpm
 - Cyclonic scrubbers Nos. 1/2 and 3/4 - pressure drop: 6.8 to 9.3 inches of water; flow rate: 50 to 116 gpm
- Should the results of any subsequent annual performance test demonstrate that the allowed range is incorrect, the Permittee shall submit those new ranges to the Division of Air Quality for inclusion in this permit. If the daily averages (for any day for which there are 24 hours of normal (not startup, shutdown or malfunction) operation) of the pressure drop or flow rate to the scrubber exceeds the allowable range an exceedance will have occurred. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 for each exceedance.

Start-up, Shutdown, and Malfunction Procedures [40 CFR 63.6(e)(3), 40 CFR 63.600(e)]

- h. The Permittee shall develop written startup, shutdown, and malfunction plan in accordance with the requirements of §63.6(e)(3). During startup, shutdown, and malfunction events, the Permittee shall comply with the requirements of §63.6(e)(3)(iii)-(iv). A current version of the plan must be maintained on-site and made

available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these requirements are not met.

- i. The emission limitations and operating parameter requirements of Section 2.1.4.B.1. of this permit do not apply during periods of startup, shutdown, and malfunction, as those terms are defined in §63.2, provided that the source is operated in accordance with §63.6(e)(1)(i).

Reporting [15A NCAC 2Q .0508(f)]

- j. **Performance test report.** As required by 40 CFR 63.10, the Permittee shall report the results of the initial and annual performance tests as part of the notification of compliance status required in §63.9.
- k. **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, the Permittee shall submit a summary report containing the information specified in §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.
- l. **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, 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. 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.

2. 15A NCAC 2D. 0501(e): 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 SO₂ per calendar day;
 - ii. Phosphoric Acid Train No. 2 (ep404) shall be limited to 486 pounds SO₂ per calendar day;
 - iii. Phosphoric Acid Train No. 3 (ep406) shall be limited to 961 pounds SO₂ per calendar day; and,
 - iv. Phosphoric Acid Train No. 4 (ep409) shall be limited to 961 pounds SO₂ per calendar day.

Testing [15A NCAC 2D .2601]

- 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.2.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .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 in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and requirements can be found in Section 3 - 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 2D .0501(e).

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

- d. The Permittee shall submit a summary report of 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.

3. 15A NCAC 2D. 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	BACT Technology	Emission Limit
PA Train No. 1 (ep401, ep402, ep403)	Total Fluorides	Crossflow packed scrubber	0.020 pound per ton P ₂ O ₅ feed
PA Train No. 1 (ep401, ep402, ep403)	Sulfur dioxide	Crossflow packed scrubber	486 pounds per day

Emission Source	Pollutant	BACT Technology	Emission Limit
PA Train No. 2 (ep403, ep404, ep405)	Sulfur dioxide	Crossflow packed scrubber	486 pounds per day
PA Train No. 2 (ep403, ep404, ep405)	Total Fluorides	Crossflow packed scrubber	0.020 pounds per ton P ₂ O ₅ feed
PA Train No. 3 (ep406, ep407, ep408)	Total Fluorides	Crossflow packed scrubber	0.02 pounds per ton P ₂ O ₅ feed
PA Train No. 3 (ep406, ep407, ep408)	Hydrogen sulfide	Water scrubbing	435 pounds per day
PA Train No. 3 (ep406, ep407, ep408)	Sulfur dioxide	Water scrubbing	960 pounds per day
PA Train No. 4 (ep409, ep410)	Total Fluorides	Crossflow packed scrubber	0.020 pounds per ton P ₂ O ₅ feed
PA Train No. 4 (ep409, ep410)	Hydrogen sulfide	Crossflow packed scrubber	510 pounds per day
PA Train No. 4 (ep409, ep410)	Sulfur dioxide	Crossflow packed scrubber	960 pounds per day

Testing [15A NCAC 2Q .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 Section 3 - 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 normal production rate for the source test must be approved by NC DAQ in advance of the test. The facility shall establish the normal production rate using the production records over the last production year. A copy of the production records must accompany the request. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .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 Section 3 - General Condition JJ. Either 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 normal production rate for the source test must be approved by NC DAQ in advance of the test. The facility shall establish the normal production rate using the production records over the last production year. A copy of the production records must accompany the request. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530. The results of this testing shall be saved for possible inclusion in future determinations of operating parameter ranges.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

- d. The requirements for Monitoring, Recordkeeping, and Reporting are the same as given in Section 2.1.5.A.1.d. through g. of this permit.
- e. The Permittee shall submit a summary report of monitoring, testing, 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

4. 15A NCAC 2Q. 0317: AVOIDANCE CONDITIONS

for 15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

- a. In order to avoid applicability of 15A NCAC 2D .0530(g), the Phosphoric Acid trains shall discharge into the atmosphere less than:
- 2,207.61 tons of Total Reduced Sulfur (TRS) per year from all four trains total, and
 - 1,728.3 tons per year of TRS from Trains 1,2, or 4 total, when processing calcined rock.

Testing [15A NCAC 2Q .0508(f)]

- b. In order to verify the accuracy of the average emission factor listed in Section 2.1.5.A 5.f.i., the Permittee shall test for TRS emissions from the cross flow scrubber stack of one green acid train at least once during the five year 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 TRS emissions will be required. A test triggered by exceeding 1350 tons per day will satisfy the once per five year permit term testing requirement.
- 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 normal production rate to be achieved during the performance test must be approved by the DAQ Regional Supervisor prior to the performance test. 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.

Monitoring/Recordkeeping/Calculations [15A NCAC 2Q .0508(f)]

- d. The Permittee shall use the production log (written or electronic form) (as mandated in Section 2.1.5.A 1.d. above) along with the emission factors detailed below to demonstrate compliance with emission limits in Section 2.1.5.A 4.a. above. To insure that the yearly emission limits are not exceeded, the yearly production shall be limited as follows
- The production of phosphoric acid from calcined rock shall be limited to a P₂O₅ input rate of 815,217 tons per year, calculated each month for the previous twelve (12) months,
 - The production of phosphoric acid from uncalcined rock at Trains 3 and 4 shall be limited to a P₂O₅ input rate of 981,120 tons per year, calculated each month for the previous twelve (12) months,
 - The production of phosphoric acid from uncalcined rock at Train 4 shall be limited to a P₂O₅ 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 2D .0530.
- e. The Permittee shall use the following emission factors to determine if the emission limits above are exceeded (all emissions per ton of P₂O₅ feed):
- For TRS emissions from trains processing calcined rock - 4.24 pounds,
 - For TRS emissions from Trains 3 and 4 processing uncalcined rock - 0.30 pounds
- If the results of the above calculations show emissions above any of the limits in Section 2.1.5.A.4.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Reporting [15A NCAC 2Q .0508(f)]

- f. The Permittee shall submit a summary report of monitoring and recordkeeping activities within 30 days after each calendar year quarter, due and post marked on or before January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 for the calendar year for the preceding three-month period between July and September. The report shall contain the following:
- For production using uncalcined and calcined rock, the monthly TRS emissions for the previous 14 months and the annual total TRS emissions for each of the three 12-month periods over the previous 14 months (calculations must be included).
 - The monthly P₂O₅ input rates for calcined and uncalcined rock for the previous 14 months and the annual totals for calcined and uncalcined P₂O₅ input rates for each of the three 12-month periods over the previous 14 months,

- iii. The daily P₂O₅ input rate for calcined and uncalcined rock for the previous quarter, and
- iv. The monthly total fluoride and sulfur dioxide emissions from Train 4 processing uncalcined rock for the previous 12 months and the annual total emissions for each of the three 12-month periods over the previous 14 months (calculations must be included).

State-Enforceable Only

5. 15A NCAC 2D .1100: TOXIC AIR POLLUTANT EMISSION LIMITATIONS AND REQUIREMENTS

- a. In accordance with the approved application for an air toxic compliance demonstration and to insure that limits described in Section 2.2.A.2 are not exceeded, 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/Reporting

- b. The Permittee shall use the production log (written or electronic form) (as required in Section 2.1.5.A 1. above) and other production records to document the compliance with the above operational practices limits. Failure to maintain the production log or any instances of production practices differing from the above restrictions shall be deemed noncompliance with 15A NCAC 2D .1100.

Reporting

- c. The Permittee shall submit a summary report of monitoring and recordkeeping activities within 30 days after each calendar year quarter, due and postmarked on or before **January 30** for the preceding three-month period between October and December, **April 30** for the preceding three-month period between January and March, **July 30** for the preceding three-month period between April and June, and **October 30** for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

State-Enforceable Only

6. 15A NCAC 2D .1100: TOXIC AIR POLLUTANT EMISSION LIMITATIONS AND REQUIREMENTS

- a. In accordance with the approved application for an air toxic compliance demonstration and to insure that limits described in Section 2.2.A.2 are not exceeded, 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 per calendar day.
 - ii. The feed rate (uncalcined rock) to train 3 shall not exceed 1,450 tons per calendar day.
 - iii. The feed rate (uncalcined rock) to train 4 shall not exceed 1,700 tons per calendar day.
- b. If emissions testing is required, the Permittee shall perform such testing in accordance with 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1.5.A.6.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1100.

Monitoring/Recordkeeping

- c. The Permittee shall use the production log (written or electronic form) (as mandated in 2.1.5.A.1.d. above) to document the compliance with the above requirement. Failure to maintain the production log or any instances of production rates above the above limit shall be deemed noncompliance with 15A NCAC 2D .1100.

Reporting

- d. The Permittee shall submit a summary report of monitoring and recordkeeping activities within 30 days after each calendar year quarter, due and postmarked on or before **January 30** for the preceding three-month period between October and December, **April 30** for the preceding three-month period between January and March, **July 30** for the preceding three-month period between April and June, and **October 30** for the preceding three-month period between July and September. 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. 020, 030, 031*, and 040), ep421**
Four phosphoric acid/green acid sludge storage tanks (ID Nos. 032, 033, 034, and 060), ep422
Slurry mix tank (ID No. 426-156), clarifier (ID No. 433-158), defluorinated acid pump tank (ID No. 433-165), ep450
Two HFSA Tanks (PA tank farm ID Nos. 428-440 and 428-442), carbon slurry tank (PA Tank Farm ID No. 433-182), ep492
Clarifier tank (ID No. 433-TBD) controlled by one venturi scrubber (ID No. CD-433-TBD), ep423

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
TAPS	Multiple Emission Sources Section 2.2.A.2. and Attachment 2	15A NCAC 2D .1100

State-Enforceable Only

- 1. **15A NCAC 2D .1100: TOXIC AIR POLLUTANT EMISSION LIMITATIONS AND REQUIREMENTS**
 - a. In accordance with the approved application for an air toxic compliance demonstration and to insure that limits described in Section 2.2.A.2 are not exceeded, the clarifier tank (**ID No. 433-TBD**) shall not be vented to the atmosphere without the emissions first being treated by the scrubber (**ID No. CD-433-TBD**). The scrubber shall be operated and a scrubbant flow rate shall be maintained whenever emissions from the clarifier tank are vented to it.
- Reporting**
- b. The Permittee shall submit a summary report of monitoring and recordkeeping activities within 30 days after each calendar year quarter, due and postmarked on or before **January 30** for the preceding three-month period between October and December, **April 30** for the preceding three-month period between January and March, **July 30** for the preceding three-month period between April and June, and **October 30** for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

**2.1.5.C Phosphate rock jet conveyors reactor train No. 1 (ID Nos. 429-002 and 421-115), ep430
Phosphate rock jet conveyors reactor train No. 2 (ID Nos. 429-005 and 422-115), ep431**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM/PM-10	10.7 pounds per day	15A NCAC 2D .0530
Total Fluoride	0.0178 pounds per hour	15A NCAC 2D .0530
Visible Emissions	20 percent opacity	15A NCAC 2D .0521
Toxic Air Pollutants	Multiple Emission Sources Section 2.2.A.2. and attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D. 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	BACT Technology	Emission Limit
PA No. 1 Rock Transfer Point conveyor GS-103 and PA Train 1 transfer point; emission point 430	Total Fluorides	enclosure and fabric filtration	1.78 x 10 ⁻² pound per hour
PA No. 1 Rock Transfer Point conveyor GS-103 and PA Train 1 transfer point; emission point 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; emission point 431	Total Fluorides	enclosure and fabric filtration	1.78 x 10 ⁻² pound per hour
PA No. 2 Rock Transfer Point conveyor GS-203 and PA Train 2 transfer point; emission point 431	PM-10	enclosure and fabric filtration	10.7 pounds per day

Testing [15A NCAC 2Q .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, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

c. Particulate matter emissions from the conveyor belt drop point shall be controlled by the bagfilter. To assure 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 is 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 2D .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 and time 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 2D .0530 if these records are not maintained.

Reporting [15A NCAC 2Q .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 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 2D .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 2D .2601]

- b. If emissions testing is required, the Permittee shall perform such testing in accordance with 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1.5.C 2.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

- c. To assure 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 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1.5.C.2.a. above.
 If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .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 2D .0521 if these records are not maintained.

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), ep434

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM/PM-0	8.74 pounds per day	15A NCAC 2D .0530
Total Fluoride	0.0146 pounds per hour	15A NCAC 2D .0530
Visible Emissions	20 percent opacity	15A NCAC 2D .0521
Toxic Air Pollutants	Multiple Emission Sources Section 2.2.A.2. and attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D. 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	BACT Technology	Emission Limit
PA Rock Transfer Points conveyor 70-1 and 70-2 transfer point; ep434	Total Fluorides	enclosure and fabric filtration	1.46 x 10 ⁻² pound per hour
PA Rock Transfer Points conveyor 70-1 and 70-2 transfer point; ep434	PM-10	enclosure and fabric filtration	8.74 pounds per day

Testing [15A NCAC 2D .2601]

- 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, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. Particulate matter emissions from the conveyor belt drop point shall be controlled by the bagfilter. To assure 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 is 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 2D .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 and time 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 2D .0530 if these records are not maintained.

Reporting [15A NCAC 2Q .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 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 2D .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 2D .2601]

- b. If emissions testing is required, the Permittee shall perform such testing in accordance with 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1.5.D 2.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping [15A NCAC 2Q .0508 (f)]

- c. To assure 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 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1.5.D 2.a. above. If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .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 2D .0521 if these records are not maintained.

2.1.5.E Phosphate Rock Transfer House (ID No. 429-150), ep437

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM/PM-0	6.58 pounds per day	15A NCAC 2D .0530 BACT
Total Fluoride	0.0110 pounds per hour	
Visible Emissions	20 percent opacity	15A NCAC 2D .0524
Toxic Air Pollutants	Multiple Emission Sources Section 2.2.A.2. and attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .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	BACT Technology	Emission Limit
PA Rock Transfer Point conveyor 70-2 transfer point; ep437	Total Fluorides	Enclosure and fabric filtration	1.10 x 10 ⁻² lb/hr
PA Rock Transfer Point conveyor 70-2 transfer point; ep437	PM-10	Enclosure and fabric filtration	6.58 lb/day

Testing [15A NCAC 2D .2601]

- 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, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. Particulate matter emissions from the conveyor belt drop point shall be controlled by the bagfilter. To assure 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 is 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 2D .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 and time 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 2D .0530 if these records are not maintained.

Reporting [15A NCAC 2Q .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 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 2D .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 2D .2601]

- b. If emissions testing is required, the Permittee shall perform such testing in accordance with 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1.5.E 2.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

- c. To assure 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 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1.5.E.2.a. above.If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .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 2D .0521 if these records are not maintained.

2.1.5.F Diatomaceous Earth Silo (ID No. 426-154), ep451

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM/PM-10	E= 4.10 x P ^{0.67} where E = allowable emission rate in pounds per hour and P = rock throughput in tons per hour	15A NCAC 2D .0515
Visible Emissions	20 percent opacity	15A NCAC 2D .0521

1. 15A NCAC 2D .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: [15A NCAC 2D .0515(a)]

$$E = 4.10 \times P^{0.67} \quad \text{Where} \quad \begin{array}{l} E = \text{allowable emission rate in pounds per hour} \\ P = \text{process weight in tons per hour} \end{array}$$

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

Testing [15A NCAC 2D .2601]

- 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, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. Particulate matter emissions from the transfer pipe shall be controlled by the bagfilter. To assure 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 is 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 2D .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 and time 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 2D .0515 if these records are not maintained.

Reporting [15A NCAC 2Q .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 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 2D .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 2D .2601]

- b. If emissions testing is required, the Permittee shall perform such testing in accordance with 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1.5.F.2.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

- c. To assure 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. T 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 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1.5.F.2.a.above. If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .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 2D .0521 if these records are not maintained.

2.1.5.G Phosphoric Acid Recirculation Water Cooling Tower Fans (ID Nos. ES461 and ES462), ep461, ep462

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
HAPs	Operating limitations	15A NCAC 2D .1111 40 CFR 63, Subpart AA
Toxic Air Pollutants	Multiple Emission Sources Section 2.2.A.2. and attachment 2	15A NCAC 2D .1100

1. **15A NCAC 2D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart AA – Phosphoric Acid Manufacturing Plants)**
Operation of the cooling tower shall be limited as follows: No introduction of any liquid effluent from any wet scrubbing device installed to control emissions from process equipment into any evaporative cooling tower shall be allowed. Compliance with this requirement shall be shown during inspections by the DAQ and by certification by the Permittee. [40 CFR 63.603(e)]

2.1.5.H Silicon tetrafluoride (STF) recovery plant No. 1 and No. 2 (ID No. ES424) with Venturi scrubbers (ID No. CD 438-200), ep424
Silicon tetrafluoride (STF) recovery plant No. 3 and No. 4 (ID No. ES425) with Venturi scrubbers (ID No. CDTBD), ep425

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Toxic Air Pollutants	Multiple Emission Sources Section 2.2 A.2., attachment 2, and 2.1.5.H 1.	15A NCAC 2D .1100

State-Enforceable Only

1. **15A NCAC 2D .1100: TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REQUIREMENTS**
 - a. Pursuant to 15A NCAC 2D .1100, in accordance with the approved application for an air toxic compliance demonstration and to insure that limits described in Section 2.2.A.2 are not exceeded, the following operational procedures shall be followed:
 - i. The Venturi scrubber (ID No. CD 438-200) shall be operated whenever either of the STF recovery plants' (ID No. ES424) lines are in operation.
 - ii. The Venturi scrubber (ID No. CD TBD) shall be operated whenever the STF recovery plant's (ID No. ES425) lines are in operation.
 - iii. The Venturi scrubber (ID No. CD 438-200) will maintain a minimum liquid injection flow rate of 160 gallons per minute whenever the STF recovery plant (ID No. ES424) is in operation.
 - iv. The Venturi scrubber (ID No. CD TBD) will maintain a liquid injection flow rate of *(to be determined)* whenever the STF recovery plant (ID No. ES425) is in operation.
 - v. At no time shall emissions from the STF recovery plants be exhausted directly to the atmosphere without first passing through a venturi scrubber operated in accordance with Section 2.1.5.H.1.a.iii.and iv. above.

Testing

- b. If emissions testing is required, the Permittee shall perform such testing in accordance with 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.2 A.2., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1100.

Monitoring/Recordkeeping

- c. The Permittee shall maintain a log (written or electronic form) to document the compliance with the above requirement. The liquid injection rates of the venturi scrubbers will be recorded every five minutes whenever they are in operation.

Reporting

- d. The Permittee shall submit a summary report of monitoring and recordkeeping activities within 30 days after each calendar year quarter, due and postmarked on or before **January 30** for the preceding three-month period between October and December, **April 30** for the preceding three-month period between January and March, **July 30** for the preceding three-month period between April and June, and **October 30** for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

2.1.6 Purified Acid Area

- 2.1.6.A Purified Acid Plant No. 1**
three scrub acid storage tanks (ID Nos. T24, T224, T324)
seal pot (ID No. T346),
four extraction columns under nitrogen (ID Nos. C10, C20, C210, C220),
ten Tanks under nitrogen (ID Nos. T7, T12, T13, T212, T213, T1, T201, T40, T240, T57)
four tanks with Seal Pots Under Nitrogen Blanket System (T54, T44, T244, T34)
five seal pots under nitrogen (ID No. T8, T15, T215, T315, T58)
six separators under nitrogen (ID Nos. S53, S43, S243, S253, S33, S5),
still under nitrogen (ID No. S4),
five strippers under nitrogen (ID No. S42, S242, S32, S52, S54), and
scrubber under nitrogen (ID No. S324). ep501

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Methyl Isobutyl Ketone (MIBK)	twenty parts per million in each product acid stream (thirty day average)	15A NCAC 2D .1111 40 CFR 63, Subpart AA
	thirty parts per million in each raffinate stream (thirty day average)	
	chiller gas steam exit temperature less than or equal to 50 degrees Fahrenheit	
	removal efficiency of 85 percent	15A NCAC 2D .0958
	Multiple Emission Sources Section 2.2 C.2.	15A NCAC 2D .1111 40 CFR 63, Subpart H
TAPS	Multiple Emission Sources Section 2.2 A.2., attachment 2	15A NCAC 2D .1100

1. **15A NCAC 2D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart AA – PHOSPHORIC ACID MANUFACTURING PLANTS)**
 - a. Operation of the Purified Acid Plant No. 1 shall be limited to not exceed any of the following:
 - i. A thirty day average of daily concentration measurements of methyl isobutyl ketone in excess of twenty parts per million for each product acid stream.
 - ii. A thirty day average of daily concentration measurements of methyl isobutyl ketone in excess of thirty parts per million for each raffinate stream.
 - iii. A daily average chiller stack exit gas stream temperature less than or equal to fifty degrees Fahrenheit. [40 CFR 63.602(f)]

Testing [15A NCAC 2D .2601]
 - 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.A 1.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.
 - Monitoring/Recordkeeping** [15A NCAC 2Q .0508(f)]
 - c. The Permittee shall:
 - i. Install, calibrate, maintain, and operate a monitoring system which continuously measures and permanently records 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 daily.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these monitoring systems are not maintained, calibrated, operated, and the results recorded. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these monitoring systems any exceedances of the standards given in section a. above.

Start-up, Shutdown, and Malfunction Procedures [40 CFR 63.6(e)(3), 40 CFR 63.600(e)]

- d. The Permittee shall develop written startup, shutdown, and malfunction plan in accordance with the requirements of §63.6(e)(3). During startup, shutdown, and malfunction events, the Permittee shall comply with the requirements of §63.6(e)(3)(iii)-(iv). A current version of the plan must be maintained on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these requirements are not met.
- e. The emission limitations and operating parameter requirements of Section 2.1.6.A.1. of this permit do not apply during periods of startup, shutdown, and malfunction, as those terms are defined in §63.2, provided that the source is operated in accordance with §63.6(e)(1)(i).

Leak Detection and Repair Requirements [40 CFR 63.602(f)]

- f. The Permittee shall comply with the provisions of 40 CFR 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 (§63.163),
 - ii. compressors (§63.164),
 - iii. pressure relief devices in gas/vapor service (§63.165),
 - iv. sampling connection systems (§63.166),
 - v. open-ended valves or lines (§63.167),
 - vi. valves in gas/vapor service and light liquid service (§63.168),
 - vii. pumps, valves, connectors, and agitators in heavy liquid service, instrumentation systems, and pressure relief devices in liquid service (§63.169),
 - viii. surge control vessels and bottoms receivers (§63.170),
 - ix. delay of repair equipment (§63.171),
 - x. closed-vent systems and control devices (§63.172),
 - xi. agitators in gas/vapor service and in light liquid service (§63.173),
 - xii. connectors in gas/vapor service and in light liquid service (§63.174),The Permittee shall be deemed in noncompliance with 15A NCAC 2D .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 2Q .0508(f)]

- g. **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, the Permittee shall submit a summary report containing the information specified in §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.
- h. **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, 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. 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.

- 2. **15A NCAC 2D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS**
As required by 15A NCAC 2D .0958(e), the Permittee shall maintain a minimum recovery efficiency of 85 percent for all sources of MIBK at the plant site.

2.1.6.B Purified Acid Plant No. 1 - three acid defluorination columns with concentrators (ID Nos. ID S88/T70, S288/T100, S118/T270), ep502

The following table provides a summary of limits and standards for the emission sources described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
VOC	Multiple Emission Sources Section 2.2 A.1.	15A NCAC 2D .0958
TAP	Multiple Emission Sources Section 2.2 A.2., Attachment 2	15A NCAC 2D .1100

2.1.6.C Purified Acid Plant No. 1 - Direct Cooling Tower (ID No. CT-1), ep510/511 Indirect Cooling Tower (ID No. CT-2), ep512/513

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
HAP	Operating limitations	15A NCAC 2D .1111 40 CFR 63, Subpart AA
TAP	Multiple Emission Sources Section 2.2 A.2., Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart AA – PHOSPHORIC ACID MANUFACTURING PLANTS)

- a. Operation of the cooling towers shall be limited as follows: No introduction of any liquid effluent from any wet scrubbing device installed to control emissions from process equipment into any evaporative cooling tower shall be allowed. Compliance with this requirement shall be shown during inspections by the DAQ and by certification by the Permittee. [40 CFR 63.603(e)]

**2.1.6.D Purified Acid Plant No. 2
Two scrub acid storage tanks (ID Nos. T1024, T1324), seal pot (ID No. T1346), two extraction columns under nitrogen (ID No. C1010, C1020), seven tanks under nitrogen (ID Nos. T1007, T1012, T1013, T1212, T1001, T1040, T1057), three tanks with seal pots under nitrogen (ID Nos. T1054, T1044, T1034), five seal pots under nitrogen (ID Nos. T1008, T1015, T1215, T1315, T1058), five separators under nitrogen (ID Nos. S1043, S1053, S1253, S1033, S1005), still under nitrogen (ID No. S1004), four strippers under nitrogen (ID Nos. S1042, S1032, S1052, S1054), scrubber under nitrogen (ID No. S1324), ep503**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Methyl Isobutyl Ketone (MIBK)	twenty parts per million in each product acid stream (thirty day average)	15A NCAC 2D .1111 40 CFR 63 Subpart AA
	thirty parts per million in each raffinate stream (thirty day average)	
	chiller gas steam exit temperature less than or equal to 50 degrees Fahrenheit	15A NCAC 2D .1111 40 CFR 63 Subpart AA 15A NCAC 2D.0530 BACT
Total Fluorides	0.0152 pounds per hour	15A NCAC 2D .0530 BACT
VOC	Multiple Emission Sources Section 2.2 A.1.	15A NCAC 2D .0958
HAPs	Multiple Emission Sources Section 2.2 C.2.	15A NCAC 2D .1111 40 CFR 63 Subpart H

Regulated Pollutant	Limits/Standards	Applicable Regulation
TAPS	Multiple Emission Sources Section 2.2 A.2., attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart AA – PHOSPHORIC ACID MANUFACTURING PLANTS)

- a. Operation of the Purified Acid Plant No. 2 shall be limited to not exceed any of the following:
 - i. A thirty day average of daily concentration measurements of methyl isobutyl ketone in excess of twenty parts per million for each product acid stream.
 - ii. A thirty day average of daily concentration measurements of methyl isobutyl ketone in excess of thirty parts per million for each raffinate stream.
 - iii. A daily average chiller stack exit gas stream temperature less than or equal to fifty degrees Fahrenheit. [40 CFR 63.602(f)]

Testing [15A NCAC 2D .2601]

- 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.D.1.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. 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.
- d. 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 2D .1111 if these monitoring systems are not maintained, calibrated, operated, and the results recorded. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these monitoring systems any exceedances of the standards given in a. above.

Start-up, Shutdown, and Malfunction Procedures [40 CFR 63.6(e)(3), 40 CFR 63.600(e)]

- e. The Permittee shall develop written startup, shutdown, and malfunction plan in accordance with the requirements of §63.6(e)(3). During startup, shutdown, and malfunction events, the Permittee shall comply with the requirements of §63.6(e)(3)(iii)-(iv). A current version of the plan must be maintained on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these requirements are not met.
- f. The emission limitations and operating parameter requirements of Section 2.1.6.D.1. of this permit do not apply during periods of startup, shutdown, and malfunction, as those terms are defined in §63.2, provided that the source is operated in accordance with §63.6(e)(1)(i).

Leak Detection and Repair Requirements [40 CFR 63.602(f)]

- g. The Permittee shall comply with the provisions of 40 CFR 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 (§63.163),
 - ii. compressors (§63.164),
 - iii. pressure relief devices in gas/vapor service (§63.165),
 - iv. sampling connection systems (§63.166),
 - v. open-ended valves or lines (§63.167),
 - vi. valves in gas/vapor service and light liquid service (§63.168),
 - vii. pumps, valves, connectors, and agitators in heavy liquid service, instrumentation systems, and pressure relief devices in liquid service (§63.169),
 - viii. surge control vessels and bottoms receivers (§63.170),
 - ix. delay of repair equipment (§63.171),
 - x. closed-vent systems and control devices (§63.172),
 - xi. agitators in gas/vapor service and in light liquid service (§63.173), and
 - xii. connectors in gas/vapor service and in light liquid service (§63.174).

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .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 2Q .0508(f)]

- h. **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, the Permittee shall submit a summary report containing the information specified in §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.
- i. **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, 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. 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.

2. 15A NCAC 2D .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	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 50EF
Purified Acid Plant No. 2, Chiller Stack (ep503)	Total Fluorides	Chiller	1.52 x 10 ⁻² pounds per hour

Testing [15A NCAC 2D .2601]

- 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.D.1.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.
- c. The Permittee shall conduct a performance test once per five-year permit period 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 Section 3 - 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 normal production rate for the source test must be approved by NC DAQ in advance of the test. The facility shall establish the normal production rate using the production records over the last production year. A copy of the production records must accompany the request. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .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 2D .0530 if these monitoring systems are not maintained, calibrated, operated, and the results recorded. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if these monitoring systems any exceedances of the standards given in Section 2.1.6.D.2.a. above.

Reporting [15A NCAC 2Q .0508(f)]

- f. The Permittee shall submit a summary report of 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.

2.1.6.E Purified Acid Plant No. 2 - two acid defluorination column/concentrators (ID No. S1088/T1070 and S1118/T1100), ep504

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Total Fluorides	0.0688 pounds per hour	15A NCAC 2D .0530 BACT
VOC	Multiple Emission Sources Section 2.2 A.1.	15A NCAC 2D .0958
TAPS	Multiple Emission Sources Section 2.2 A.2., Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D. 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 2Q .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., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.
- c. The Permittee shall conduct a performance test once per five-year permit period to demonstrate compliance with the applicable emission standard for Emission Point 504. Details of the emissions testing and requirements can be found in Section 3 - 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 normal production rate for the source test must be approved by the DAQ in advance of the test. The facility shall establish the normal production rate using the production records over the last production year. A copy of the production records must accompany the request. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .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 2D .0530 if these monitoring systems are not maintained, calibrated, operated, and the results recorded.

Reporting [15A NCAC 2Q .0508(f)]

- e. The Permittee shall submit a summary report of 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.

2.1.6.F Purified Acid Plant No. 2 - No. 2 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:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Total Fluorides	0.072 pounds per hour	15A NCAC 2D .0530 BACT
Particulate Matter	0.11 pounds per hour	

Regulated Pollutant	Limits/Standards	Applicable Regulation
HAPs	Operating Restriction	15A NCAC 2D .1111 40 CFR 63, Subpart AA
VOC	Multiple Emission Sources Section 2.2 A.1.	15A NCAC 2D .0958
TAPS	Multiple Emission Sources Section 2.2 A.2., Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart AA – PHOSPHORIC ACID MANUFACTURING PLANTS)

a. Operation of the cooling towers shall be limited as follows: No introduction of any liquid effluent from any wet scrubbing device installed to control emissions from process equipment into any evaporative cooling tower shall be allowed. Compliance with this requirement shall be shown during inspections by the DAQ and by certification by the Permittee. [40 CFR 63.603(e)]

2. 15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD) BACT

a. For the concentrators, the following table shall describe the emission standards:

Emission Source	Pollutant	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 2Q .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.F.2.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

2.1.6.G Purified Acid Plant No. 2 - No. 2 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:

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM	0.072 pounds per hour	15A NCAC 2D .0530 BACT
HAPs	Operating Restrictions	15 A NCAC 2D .1111 40 CFR 63, Subpart AA
VOC	Multiple Emission Sources Section 2.2 A.1.	15A NCAC 2D .0958
TAPS	Multiple Emission Sources Section 2.2 A.2., Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart AA – Phosphoric Acid Manufacturing Plants)

a. Operation of the cooling towers shall be limited as follows: No introduction of any liquid effluent from any wet scrubbing device installed to control emissions from process equipment into any evaporative cooling tower shall be allowed. Compliance with this requirement shall be shown during inspections by the DAQ and by certification by the Permittee. [40 CFR 63.603(e)]

2. 15A NCAC 2D. 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	BACT	Emission Limit
PAP No. 2 Cooling Tower No. 2	PM-10	Drift Elimination System	0.072 pounds per hour

Testing [15A NCAC 2Q .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., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

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

2.1.6.H Purified Acid Plant No. 2 Train No. 4

Gas chiller (ID No. GC-2) controlling the following:

- two scrub acid storage tanks (ID Nos. T1524, T1224)
- seal pot (ID No. T1546)
- two extraction columns under nitrogen (ID Nos. C1210, C1220),
- five tanks under nitrogen (ID Nos. T1201, T1207, T1213, T1240, T2057),
- tank with seal pot under nitrogen (ID No. T1244),
- five emergency vent pots (ID Nos. T1415, T1515, T1208, T1258, T1546)
- two separators under nitrogen (ID Nos. S1243, S1205),
- stripper under nitrogen (ID No. S1242),
- solvent still (ID No. S1204), ep503

Regulated Pollutant	Limits/Standards	Applicable Regulation
Methyl Isobutyl Ketone (MIBK)	twenty parts per million in each product acid stream (thirty day average)	15A NCA 2D .1111 40 CFR 63 Subpart AA
	thirty parts per million in each raffinate stream (thirty day average)	
	chiller gas steam exit temperature less than or equal to 50 Fahrenheit	15A NCAC 2D .1111 40 CFR 63 Subpart AA 15A NCAC 2D.0530 BACT
Total Fluorides	0.0152 pounds per hour	15A NCAC 2D .0530 BACT
VOC	Multiple Emission Sources Section 2.2 A.1.	15A NCAC 2D .0958
HAPs	Multiple Emission Sources Section 2.2 C.2.	15A NCAC 2D .1111 40 CFR 63 Subpart H
TAPs	Multiple Emission Sources Section 2.2 A.2., attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart AA – PHOSPHORIC ACID MANUFACTURING PLANTS)

- a. Operation of the Purified Acid Plant No. 2 Train No. 4 shall be limited to not exceed any of the following:
 - i. A thirty day average of daily concentration measurements of methyl isobutyl ketone in excess of twenty parts per million for each product acid stream.
 - ii. A thirty day average of daily concentration measurements of methyl isobutyl ketone in excess of thirty parts per million for each raffinate stream.
 - iii. A daily average chiller stack exit gas stream temperature less than or equal to fifty degrees Fahrenheit. [40 CFR 63.602(f)]

Testing [15A NCAC 2D .2601]

- 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.H.1.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. 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.
- d. 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 2D .1111 if these monitoring systems are not maintained, calibrated, operated, and the results recorded. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these monitoring systems any exceedances of the standards given in Section 2.1.2.H.1.a. above.

Start-up, Shutdown, and Malfunction Procedures [40 CFR 63.6(e)(3), 40 CFR 63.600(e)]

- e. The Permittee shall develop written startup, shutdown, and malfunction plan in accordance with the requirements of §63.6(e)(3). During startup, shutdown, and malfunction events, the Permittee shall comply with the requirements of §63.6(e)(3)(iii)-(iv). A current version of the plan must be maintained on-site and made available to an authorized representative upon request. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1111 if these requirements are not met.
- f. The emission limitations and operating parameter requirements of Section 2.1.6.H.1. of this permit do not apply during periods of startup, shutdown, and malfunction, as those terms are defined in §63.2, provided that the source is operated in accordance with §63.6(e)(1)(i).

Leak Detection and Repair Requirements [40 CFR 63.602(f)]

- g. The Permittee shall comply with the provisions of 40 CFR 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 (§63.163),
 - ii. compressors (§63.164),
 - iii. pressure relief devices in gas/vapor service (§63.165),
 - iv. sampling connection systems (§63.166),
 - v. open-ended valves or lines (§63.167),
 - vi. valves in gas/vapor service and light liquid service (§63.168),
 - vii. pumps, valves, connectors, and agitators in heavy liquid service, instrumentation systems, and pressure relief devices in liquid service (§63.169),
 - viii. surge control vessels and bottoms receivers (§63.170),
 - ix. delay of repair equipment (§63.171),
 - x. closed-vent systems and control devices (§63.172),
 - xi. agitators in gas/vapor service and in light liquid service (§63.173), and
 - xii. connectors in gas/vapor service and in light liquid service (§63.174).The Permittee shall be deemed in noncompliance with 15A NCAC 2D .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 2Q .0508(f)]

- h. **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, the Permittee shall submit a summary report containing the information specified in §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.
- i. **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, 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. 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.

2. **15A NCAC 2D .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	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 50EF
PAP No. 2 No. 2 Train No. 4 Chiller Stack (ep503)	Total Fluorides	Chiller	1.52 x 10 ⁻² pounds per hour

Testing [15A NCAC 2Q .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.H 2.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.
- c. The Permittee shall conduct a performance test once per five-year permit period 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 Section 3 - 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 normal production rate for the source test must be approved by the Division of Air Quality in advance of the test. The facility shall establish the normal production rate using the production records over the last production year. A copy of the production records must accompany the request. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .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 2D .0530 if these monitoring systems are not maintained, calibrated, operated, and the results recorded. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if these monitoring systems any exceedances of the standards given in Section 2.1.2.H.2.a. above.

Reporting [15A NCAC 2Q .0508(f)]

- f. The Permittee shall submit a summary report of 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.

**2.1.6.I Purified Acid Plant No. 2 Train No. 4
Acid Defluorination Column/Concentrator (ID No. S1288/T1270), ep506**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Total Fluorides	0.0688 pounds per hour	15A NCAC 2D .0530 BACT
VOC	Multiple Emission Sources Section 2.2 A.1.	15A NCAC 2D .0958
TAPs	Multiple Emission Sources Section 2.2 A.2., Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D. 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	BACT	Emission Limit
PAP No. 2 Scrubber Stack (ep506)	Total Fluorides	Scrubbers	6.88 x 10 ⁻² pounds per hour

Testing [15A NCAC 2Q .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., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.
- c. The Permittee shall conduct a performance test once per five-year permit period to demonstrate compliance with the applicable emission standard for Emission Point 503. Details of the emissions testing and requirements can be found in Section 3 - 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 normal production rate for the source test must be approved by the Division of Air Quality in advance of the test. The facility shall establish the normal production rate using the production records over the last production year. A copy of the production records must accompany the request. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .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 2D .0530 if these monitoring systems are not maintained, calibrated, operated, and the results recorded.

Reporting [15A NCAC 2Q .0508(f)]

- e. The Permittee shall submit a summary report of 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.

2.1.6.J Purified Acid Plant No. 2 Train No. 4 - Direct Cooling Tower No. 3 (ID No. TBDA), ep518/519

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Total Fluorides	0.072 pounds per hour	15A NCAC 2D .0530 BACT
Particulate matter	0.0367 pounds per hour	
HAPs	Operating Restrictions	15A NCAC 2D .1111 40 CFR 63, Subpart AA
VOC	Multiple Emission Sources Section 2.2 A.1.	15A NCAC 2D .0958
TAPs	Multiple Emission Sources Section 2.2 A.2., Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart AA – Phosphoric Acid Manufacturing Plants)

- a. Operation of the cooling towers shall be limited as follows: No introduction of any liquid effluent from any wet scrubbing device installed to control emissions from process equipment into any evaporative cooling tower shall be allowed. Compliance with this requirement shall be shown during inspections by the DAQ and by certification by the Permittee. [40 CFR 63.603(e)]

2. **15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD) BACT**

a. For the concentrators, the following table shall describe the emission standards:

Emission Source	Pollutant	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 2Q .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.J.2.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

2.1.6.K **Purified Acid Plant No. 2 Train No. 4 - Indirect Cooling Tower No. 4 (ID No. TBDB) ep520/521**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate Matter	0.072 pounds per hour	15A NCAC 2D .0530 BACT
HAPs	Operating Restrictions	15A NCAC 2D .1111 40 CFR 63, Subpart AA
VOC	Multiple Emission Sources Section 2.2 A.1.	15A NCAC 2D .0958

1. **15A NCAC 2D .1111: Maximum Achievable Control Technology (40 CFR 63, Subpart AA – Phosphoric Acid Manufacturing Plants)**

a. Operation of the cooling towers shall be limited as follows: No introduction of any liquid effluent from any wet scrubbing device installed to control emissions from process equipment into any evaporative cooling tower shall be allowed. Compliance with this requirement shall be shown during inspections by the DAQ and by certification by the Permittee. [40 CFR 63.603(e)]

2. **15A NCAC 2D. 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	BACT	Emission Limit
PAP No. 2 Cooling Tower No. 4	PM-10	Drift Elimination System	0.072 pounds per hour

Testing [15A NCAC 2Q .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.2.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping/Reporting [15A NCAC 2Q .0508(f)]

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

2.1.7 Defluorinated Feed Phosphate Production Area

2.1.7.A Two pug mills (ID Nos. 355-116-455A and 355-116-455B) and defluorination kiln (ID No. 365-135-477), ep701

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur Dioxide	335 pounds per day	15A NCAC 2D .0501(e)
	39.5 tons per year	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .0530)
	2.3 pounds per million Btu	15A NCAC 2D .0516
Carbon Monoxide	117.52 pounds per hour	15A NCAC 2D .0530, BACT
Sulfuric Acid Mist	6.57 pounds per hour	15A NCAC 2D .0530, BACT
Nitrogen Oxides	562.5 tons per year	15A NCAC 2D .0501(e)
	210 pounds per hour	15A NCAC 2D .0530, BACT
Particulate Matter	727.2 pounds per 3 hour block 132.7 tons per year	15A NCAC 2D .0501(e)
	25.0 pounds per hour (filterable)	15A NCAC 2D .0530, BACT
TAPS	Multiple Emission Sources Section 2.2 A.2., Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D. 0501(e): COMPLIANCE WITH NATIONAL AMBIENT AIR QUALITY STANDARDS

- a. Sulfur dioxide emissions from the kiln shall not exceed 335 pounds per day.
- b. Nitrogen oxide (NOx) emissions from the kiln shall not exceed 562.5 tons per year.
- c. Particulate matter emissions limits for the Pug Mill and Kiln are found in the Section 2.2 B. of this permit.

Testing [15A NCAC 2D .2601]

- d. If emissions testing is required, the Permittee shall perform such testing in accordance with 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1.7.A.1.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501(e).
- e. The Permittee shall demonstrate compliance with the emission limits for sulfur dioxide above by testing the kiln (ID No. 365-135-477) once per five-year permit period for sulfur dioxide in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and requirements can be found in Section 3 - General Condition JJ. If the results of this test are above the limit given in Section 2.1.7.A.1.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501(e).
- f. The Permittee shall demonstrate compliance with the emission limits for NOx above by testing the kiln (ID No. 365-135-477) once per five-year permit period for NOx in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and requirements can be found in Section 3 - General Condition JJ. If the results of this test are above the limit given in Section 2.1.7.A.1.b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0501(e).

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- g. To comply with the provisions of this permit and ensure that emissions do not exceed the regulatory limits, the Permittee shall perform periodic inspections and maintenance (I&M) as recommended by the manufacturer plus any additional I&M as listed below. The results of all inspections and any variance from manufacturer's recommendations or from those given in this permit shall be investigated with corrections made and the dates of all actions recorded in a logbook. Records of all maintenance and monitoring activities shall be recorded on the logbook. The logbook (in written or electronic form) shall be kept on site and made available to DAQ personnel upon request. Failure to maintain this logbook will be deemed noncompliance with 15A NCAC 2D .0501(e).

Reporting [15A NCAC 2Q .0508(f)]

- h. The Permittee shall submit a summary report of testing 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.

2. 15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION (PSD) BACT

- a. For the Pug Mills and Defluorination Kiln (ep701) the following table shall describe the emission standards:

Emission Source	Pollutant	BACT	Required Removal Efficiency	Emission Limit
two Pugmills (ID Nos. 355-116-455A+B), Defluorination Kiln (ID No. 365-135-477)	Particulate (filterable particulate)	2 Jet Scrubber	98.31%	25 lb/hr
	Sulfuric Acid Mist	2 Jet Scrubber	20.8%	6.57 lb/hr
	Carbon Monoxide	good combustion practices	N/A	117.52 lb/hr
	Nitrogen Oxides	good combustion practices	N/A	210.0 lb/hr

- b. The removal efficiencies provided in the table above must be met at all times and at any operational rate, or at the maximum level as described in the SSM plan.
- c. The emission limits provided in the table above are maximum allowable emission rates, and may not be exceeded as determined by the compliance method.

Testing [15A NCAC 2D .2601]

- d. If emissions testing is required, the Permittee shall perform such testing in accordance with 15A NCAC 2D .0530 and General Condition JJ. If the results of this test are above the limit given in Section 2.1.7. A.2. a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.
- e. The Permittee shall conduct a performance test once per five-year permit period to demonstrate compliance with the applicable particulate and sulfuric acid mist emission standards for the Pug Mills and Defluorination Kiln (**ep701**) in accordance with 40 CFR 63.626. Details of the emissions testing and requirements can be found in Section 3 - General Condition JJ. The sources 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 normal production rate for the source test must be approved by NC DAQ in advance of the test. The facility shall establish the normal production rate using the production records over the last production year. A copy of the production records must accompany the request. If the results of this test are above the emission standard given above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Inspection/Recordkeeping [15A NCAC 2Q .0508(f)]

- f. The Permittee shall ensure compliance with the PM/PM-10 emission limits stated above by monitoring the following operational parameters and performing the required Inspection and Maintenance procedures:

Emission Source	Control Device	Inspection and Maintenance	Monitoring		
			Parameter	Minimum	Frequency
two Pugmills (ID No. 355-116-455 A&B), Defluorination Kiln (ID No. 365-135-477)	Limestone Slurry Scrubber (ID No. 360-120-476)	Perform periodic inspections and maintenance (I&M) as recommended by the manufacturer.	Recycle liquid flow rate	Set during compliance test	Daily
			Pressure drop across scrubber	55 inches of water	Daily
			pH	Set during compliance test	Daily

Operation of the kiln while the daily average (midnight to midnight) of any of the scrubber parameters are below the minimum above shall be deemed non-compliance with 15A NCAC 2D.0530, except start up, shut down and malfunctions.

- g. The results of all inspections and any variance from manufacturer's recommendations or from those given in this permit shall be investigated with corrections made and the dates of all actions recorded in a logbook. Records of all maintenance and monitoring activities shall be recorded on the logbook. The logbook (in written or electronic form) shall be kept on site and made available to DAQ personnel upon request. Failure to maintain this logbook will be deemed noncompliance with 15A NCAC 2D .0530.

Reporting [15A NCAC 2Q .0508(f)]

- h. The Permittee shall submit a summary report of testing 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.

3. 15A NCAC 2Q .0317: AVOIDANCE CONDITIONS

for 15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

- a. In order to avoid applicability of 15A NCAC 2D .0530(g), the defluorination kiln (ep701) shall discharge into the atmosphere less than 39.50 tons per year of sulfur dioxide.
- b. To insure compliance with the emission limit above, annual production of defluorinated feed phosphate shall be limited to 175,000 tons per year.

Testing [15A NCAC 2D .2601]

- c. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1.7.A 3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping/Calculations [15A NCAC 2Q .0508(f)]

- d. The Permittee shall maintain a production log (written or electronic form) to demonstrate compliance with the production limit in Section 2.1.7.A 3.b. above. If the production rate shown in the production log is above the limit for any consecutive 12-month period, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.
- e. The Permittee shall monitor the sulfur and heat content of all the coal 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 2D .0530 if the sulfur and heat content of the coal is not monitored and recorded.

- f. The Permittee shall monitor the sulfur and heat content of all liquid fuels 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 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 2D .0530 if these records are not kept.

Reporting [15A NCAC 2Q .0508(f)]

- g. The Permittee shall submit a summary report of 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.

4. 15A NCAC 2D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

- a. Emissions of sulfur dioxide from these sources 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 2D .2601]

- b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1.7.A.4.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. The monitoring, recordkeeping, and reporting requirements in Section 2.1.7.A.3. above will be sufficient to demonstrate compliance with 15A NCAC 2D .0516. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516 if these records are not kept.

2.1.7.B

Grate cooler (ID No. 370-106-468), ep702

Soda ash day bin (ID No. 355-128-462), ep709

Soda ash unloading (ID No. 382-137-463), ep710

Limestone storage silo (ID No. 382-100-462), ep711

Air classifier elevator (ID No. 370-169-472), classifier (ID No. 370-165-452), ep712

Soda ash feeder (ID No. 355-154-463), limestone feeder (ID No. 355-153-463), plenum recycle dust discharge conveyor (ID No. 355-112-473), plenum dust elevator (ID No. 365-155-472, and plenum dust bin (ID No. 355-125-462), ep713

Phosphate rock surge bin (ID No. 355-129-462), phosphate rock feeder (ID No. 355-155-463), and recycle feeder (ID No. 355-156-433), ep714

Recycle bin (ID No. 355-130-462), ep715

Classifier product elevator (ID No. 370-120-478), product cooler discharge conveyor (ID No. 370-176-474), clinker surge bin elevator (ID No. 370-155-472), clinker reclaim conveyor No. 1 (ID No. 370-177-463), clinker reclaim conveyor No. 2 (ID No. 370-174-463), clinker surge bin (ID No. 370-113-462), screening feed elevator (ID No. 370-156-472), clinker reclaim hopper (ID No. 370-115-462), clinker reclaim crusher (ID No. 370-126-480), clinker screen (ID No. 370-140-452), abort surge bin (ID No. 370-114-462), crusher discharge conveyor (ID No. 370-175-463), product screen discharge conveyor (ID No. 370-148A-463), classifier discharge belt conveyor (ID No. 370-148B-463), clinker transfer conveyor (ID No. 370-173-463), clinker dump conveyor (ID No. 370-143-463), clinker surge bin feeder (ID No. 370-147-450), clinker feed conveyor (ID No. 370-144-463), primary clinker crusher (ID No. 370-131-480), and secondary clinker crusher (ID No. 370-132-480), ep717

**Product transfer conveyor (ID No. 375-117-463), and product tripper conveyor (ID No. 375-118-463)
Product load out hopper (ID No. 375-105-462), product reclaim hopper (ID No. 375-106-462),
product polishing screen (ID No. 375-108-452), product load out elevator ID No. 375-132-472),
and product reclaim conveyor (ID No. 375-120-463), ep718**

Product load out conveyor (ID No. 375-135-4780), four railcar vent hoods (ID No. RCVH), product load out car spout (ID No. 375-121-463), two car loading conveyors (ID Nos. 375-123-463 and 375-124-461), ep754

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM/PM-10	E = 4.10(P) ^{0.67} for process weight rates less than or equal to 60,000 pounds per hour. E = 55.0(P) ^{0.11} - 40 for process weight rates greater than 60,000 pounds per hour; where E = allowable emission rate in pounds per hour and P = rock throughput in tons per hour	15A NCAC 2D .0515
Visible Emissions	20 percent opacity	15A NCAC 2D .0521
PM/PM-10	See Section 2.2 B. - Multiple Sources	15A NCAC 2D .0501(e)

1. 15A NCAC 2D .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: [15A NCAC 2D .0515(a)]

For process weight rates less than or equal to 60,000 pounds per hour:
E = 4.10(P)^{0.67}

For process weight rates greater than 60,000 pounds per hour:
E = 55.0(P)^{0.11} - 40

Where, E = allowable emission rate in pounds per hour and
P = rock throughput in tons per hour

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

Testing [15A NCAC 2D .2601]

- 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, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. Particulate matter emissions from these sources shall be controlled by bagfilters. To assure 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 is 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 2D .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 and time 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 2D .0515 if these records are not maintained.

Reporting [15A NCAC 2Q .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 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 2D .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 2D .2601]

- 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 2.1.7.B 2.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- c. To assure 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 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1.7.B.2.a. above.If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .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 2D .0521 if these records are not maintained.

2.1.8 Shipping and Miscellaneous Operations

- 2.1.8.A grinder rock load out conveyor transfer station (ID No. F650), ep650
 grinder rock load out conveyor transfer station (ID No. F651), ep651
 rock load out transfer station (ID No. F652), ep652
 phosphate rock transfer station (ID No. F653), ep653
 rock tower load out facility (ID No. F654) with fabric filter, ep654
 chute barge rock load out (ID No. F655) ep655
 chute train rock loadout (ID No. F565), ep656
 phosphate rock storage silo (ID No. 429-157), four transfer points (ID Nos. 429-158, 429-009, 429-181, 429-183) with fabric filter, ep435

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM/PM-10	E= 55.0 x P ^{0.11} -40 where E = allowable emission rate in pounds per hour and P = rock throughput in tons per hour	15A NCAC 2D .0515
Visible Emissions	20 percent opacity	15A NCAC 2D .0521
TAPS	Multiple Emission Sources Section 2.2 A.2., Attachment 2	15A NCAC 2D .1100

1. 15A NCAC 2D .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:

$$E = 55.0 \times P^{0.11} - 40 \quad \text{Where} \quad \begin{array}{l} E = \text{allowable emission rate in pounds per hour} \\ P = \text{process weight in tons per hour} \end{array}$$

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

Testing [15A NCAC 2D .2601]

- 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, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

Requirements c, d, e, and f only apply when the Rock Tower Barge Loadout has been used within the last month. Notification to DAQ is required 30 days prior to startup of this equipment.

- c. Particulate matter emissions from these sources shall be controlled by enclosures and control devices where specified. To assure 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 is 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 2D .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 and time 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 2D .0515 if these records are not maintained.

Reporting [15A NCAC 2Q .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 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 2D .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 2D .2601]

- 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 2.1.8.A.2.a., the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

Requirements c and d only apply when the Rock Tower Barge Loadout has been used within the last month. Notification to DAQ is required 30 days prior to startup of this equipment.

- c. To assure 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 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1.8.A.2.a. above.
 If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .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 2D .0521 if these records are not maintained.

**2.1.8.B Mine pit diesel generator (ID No. 214-613), ep801
Calcliner building diesel generator (ID No. 326-800-484), ep802**

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 2D .0516
visible emissions	20 percent opacity	15A NCAC 2D .0521
NOx	39.3 tons per year	15A NCAC 2Q .0317 (Avoidance of 15A NCAC 2D .0530)

1. **15A NCAC 2D .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.
 - b. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of No. 2 fuel oil in this source.

 2. **15A NCAC 2D .0521: CONTROL OF VISIBLE EMISSIONS**
 - a. Visible emissions from this source shall not be more than **20 percent opacity** (except during startup, shutdowns, and malfunctions approved as such according to procedures approved under 15A NCAC 2D .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 2D .2601]

 - b. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ. If the results of this test are above the limit given in Section 2.1.8.B.2.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

Monitoring [15A NCAC 2Q .0508(f)]

 - c. To assure compliance, once a day, when the generators are operating, the Permittee shall observe the emission points of this source for any visible emissions above normal. No record is required for days the unit does not operate. 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 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1.8.B.2.a. above. If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0521.

Recordkeeping [15A NCAC 2Q .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 2D .0521 if these records are not maintained.
-
3. **15A NCAC 2Q. 0317: AVOIDANCE CONDITIONS**
for 15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION
 - a. The generators (**ID Nos. 214-613 and 326-800-484**) shall each discharge into the atmosphere less than 40 tons of nitrogen oxides per consecutive 12-month period.
 - b. To ensure compliance with the emission limit above total fuel usage in each generator shall be limited to 223,000 gallons of diesel fuel per consecutive 12-month period.

Testing [15A NCAC 2D .2601]

 - c. If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .2601 and General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1.8.B.3.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

 - d. The Permittee shall maintain fuel usage log (written or electronic form) that demonstrates that actual annual (12-month) consumption of diesel fuel from the above sources are each less than 223,000 gallons. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the fuel usage exceeds the above limit. The log must be made available to an authorized representative upon request.

Reporting [15A NCAC 2Q .0508(f)]

- e. The Permittee shall submit a summary report of the observations by 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.

- 2.1.8.C Sulfuric Acid Plant No. 3 Fugitives, ep190**
Mill Concentrator Fugitives, ep290
Surge Pond Aerator, ep292
Warehouse No. 2 for DAP2, ep390
Fugitive Plant Fugitives, ep391, ep392
Phosphoric Acid Pilot Plant No. 2, ep316
Technical Services Dust Collection System, Pilot Plant, ep318
Filter Press/Filter Press Repulp Tanks, ep335, ep336
Purified Acid Plant Tank Farm, ep590 through ep593
Ammonia Rail Car Unloading, Truck Unloading, and Storage Tanks, ep601 through ep606
Sulfur Unloading, ep610 through ep614
Railcar Wash 1, ep615
Railcar Wash 2, ep617
Phosphoric/Superphosphoric Acid Shipping Tank Farm and Miscellaneous Sources, ep616
Cooling Pond Nos. 1 through 3, ep910 through ep922
Gypsum Stack Pond Nos. 1 through 6, ep930 through ep954

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
TAPS	State-Enforceable Only Multiple Emission Sources Section 2.2 A.2. & Attachment II	15A NCAC 2D .1100

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:

Regulated Pollutant	Limits/Standards	Applicable Regulation
VOC	Work practices	15A NCAC 2D .0958
TAPS	Specific limits listed in Attachment 2	15A NCAC 2D .1100

1. **15A NCAC 2D .0958: WORK PRACTICES FOR SOURCES OF VOLATILE ORGANIC COMPOUNDS**
 - a. Pursuant to 15A NCAC 2D .0958, for all sources that use volatile organic compounds (VOC) as solvents, carriers, material processing media, or industrial chemical reactants, or in similar uses that mix, blend, or manufacture volatile organic compounds, or emit volatile organic compounds as a product of chemical reactions, and whose emissions of VOC are greater than 15 pounds per day; the Permittee shall:
 - i. store all material, including waste material, containing volatile organic compounds in tanks or in containers covered with a tightly fitting lid that is free of cracks, holes, or other defects, when not in use,
 - ii. clean up spills of volatile organic compounds as soon as possible following proper safety procedures,
 - iii. store wipe rags containing volatile organic compounds in closed containers,
 - iv. not clean sponges, fabric, wood, paper products, and other absorbent materials with volatile organic compounds,
 - v. transfer solvents containing volatile organic compounds used to clean supply lines and other coating equipment into closable containers and close such containers immediately after each use, or transfer such solvents to closed tanks, or to a treatment facility regulated under section 402 of the Clean Water Act,
 - vi. clean mixing, blending, and manufacturing vats and containers containing volatile organic compounds by adding cleaning solvent and close the vat or container before agitating the cleaning solvent. The spent cleaning solvent shall then be transferred into a closed container, a closed tank or a treatment facility regulated under section 402 of the Clean Water Act. [15A NCAC 2D .0958(c)]
 - b. When cleaning parts with a solvent containing a volatile organic compound, the Permittee shall:
 - i. flush parts in the freeboard area,
 - ii. take precautions to reduce the pooling of solvent on and in the parts,
 - iii. tilt or rotate parts to drain solvent and allow a minimum of 15 seconds for drying or until all dripping has stopped, whichever is longer,
 - iv. not fill cleaning machines above the fill line,
 - v. not agitate solvent to the point of causing splashing. [15A NCAC 2D .0958(d)]

Monitoring [15A NCAC 2Q .0508(f)]
 - c. To assure compliance with paragraphs (a) and (b) above, the Permittee shall, at a minimum, perform a visual inspection once per month of all operations and processes utilizing volatile organic compounds. No inspection is required in any area that has not utilized volatile organic compounds during the previous month. The inspections shall be conducted during normal operations. If the required inspections are not conducted the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0958.

Recordkeeping [15A NCAC 2Q .0508(f)]
 - d. The results of the inspections 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 inspection; and
 - ii. the results of each inspection noting whether or not noncompliant conditions were observed.

If the required records are not maintained the Permittee shall be deemed to be in noncompliance with 15A NCAC 2D .0958.

Reporting [15A NCAC 2Q .0508(f)]
 - e. The Permittee shall submit a summary report of the observations by 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.

State-Enforceable Only

2. **15A NCAC 2D .1100: TOXIC AIR POLLUTANT EMISSION LIMITATIONS AND REQUIREMENTS**
 - a. Pursuant to 15A NCAC 2D .1100 and in accordance with the approved application for an air toxic compliance demonstration, the permit limits found in Attachment II shall not be exceeded.
 - b. To ensure compliance with the limits in Attachment II, 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 II.
 - ii. For each emission source affected by 15A NCAC 2D .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 your most recent application is considered part of the binding limits and conditions of this permit. Your application specified certain parameters for modeling compliance with 15A NCAC 2D .1100 "Control of Toxic Air Pollutants." A new permit is required prior to changing any of these parameters. Changes in equipment or 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-3 to S-7**) by performing annual emissions tests for sulfuric acid mist in accordance with a testing protocol approved by the DAQ. Emissions testing requirements can be found in Section 3 - General Condition JJ.
 - d. The Permittee shall submit a summary report of monitoring and recordkeeping activities within 30 days after each calendar year quarter, due and postmarked on or before **January 30** for the preceding three-month period between October and December, **April 30** for the preceding three-month period between January and March, **July 30** for the preceding three-month period between April and June, and **October 30** for the preceding three-month period between July and September. The quarterly report shall include the following:
 - i. A verification that all actual measured production and material feed rates cited in 15A NCAC 2D .1100 stipulations throughout this permit were all within the permit limitations over the past quarter. If exceedences 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 2D .1100 stipulations throughout this permit were completed as scheduled.

B. DFP Area, Pug Mill, Kiln, and Materials Handling Sources (Section 2.1.7.B)

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

Regulated Pollutant	Limits/Standards	Applicable Regulation
PM-10	727.2 pounds per 24 hours and 137.2 tons per year	15A NCAC 2D .0501(e)

1. **15A NCAC 2D. 0501(e): COMPLIANCE WITH NATIONAL AMBIENT AIR QUALITY STANDARDS**
 - a. Operation the equipment listed above shall be limited as follows:
 - i. Emissions of PM-10 from all of the sources considered together shall not exceed 727.2 pounds per 24 hours (midnight-to-midnight).
 - ii. Emissions of PM-10 from all of the sources considered together shall not exceed 137.2 tons per year.

2.3 - Multiple Emission Source(s) Specific Limitations and Conditions

State-Enforceable Only

2.3.1. 15A NCAC 2D .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 2D .0543 "Best Available Retrofit Technology" is no additional controls.

Emission Source ID No.	Emission Source Description	Emission Point (ep)
S-3	Double-absorption sulfuric acid plant No. 3 (2000 tons per day nominal capacity)	101
S-4	Double-absorption sulfuric acid plant No. 4 (1850 tons per day nominal capacity)	102
417-503-462	Lime silo No. 4 at water treatment area	121
339-051	One coal/coke/"off-spec" used oils, used oil sludge/used glycols/ residual oil-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/ residual oil-fired vertical fluidized bed, phosphate rock calciner unit No. 2 (105.1 tons per hour nominal feed capacity)	202
339-053	One coal/coke/residual oil-fired vertical fluidized bed, phosphate rock calciner unit No. 3 (105.1 tons per hour nominal feed capacity)	203
339-054	One coal/coke/residual oil-fired vertical fluidized bed, phosphate rock calciner unit No. 4 (105.1 tons per hour nominal feed capacity)	204
339-055	One coal/coke/residual oil-fired vertical fluidized bed, phosphate rock calciner unit No. 5 (105.1 tons per hour nominal feed capacity)	205
339-056	One coal/coke/residual oil-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 39 to 70.1	Calcined rock CTS	220
Belt 55 to Belt 70.1	Calcined rock CTS Baghouse	221
Belt 22 to Belt 23 or Belt 24	Storage silo baghouse	222
339-809-464	Calcined/dried rock CTS	223
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
511-032	Diammonium Phosphate Plant No. 3 residual oil-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, 451-409	Superphosphoric acid plant No. 1	330
451-701, 451-809	Superphosphoric acid plant No. 2	331
451-316, 451-308	Superphosphoric acid plant No. 3	332

Emission Source ID No.	Emission Source Description	Emission Point (ep)
451-916, 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	(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
F650	CTS - Grinder Rock Loadout	650
F651	CTS - Grinder Rock Loadout	651
F652	Rock Loadout Transfer Station	652
F653	CTS - Phosphate Rock Transfer Station	653
F654	Rock Tower Loadout facility	654
F655	Chute-Barge Rock Loadout	655
F656	Chute-Train Rock Loadout	656

SECTION 3 - GENERAL CONDITIONS (version 3.1)

This section describes terms and conditions applicable to this Title V facility.

A. General Provisions [NCGS 143-215 and 15A NCAC 2Q .0508(i)(16)]

1. Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in 15A NCAC 2D and 2Q.
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 2Q .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 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 Environment and Natural Resources upon request.

C. Severability Clause [15A NCAC 2Q .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 2Q .0507(e) and 2Q .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 2Q .0508(i)(2)]

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. **Permit Modifications**

1. Administrative Permit Amendments [15A NCAC 2Q .0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with 15A NCAC 2Q .0514.
2. Transfer in Ownership or Operation and Application Submittal Content [15A NCAC 2Q .0524 and 2Q .0505]
The Permittee shall submit an application for an ownership change in accordance with 15A NCAC 2Q.0524 and 2Q .0505.
3. Minor Permit Modifications [15A NCAC 2Q .0515]
The Permittee shall submit an application for a minor permit modification in accordance with 15A NCAC 2Q .0515.
4. Significant Permit Modifications [15A NCAC 2Q .0516]
The Permittee shall submit an application for a significant permit modification in accordance with 15A NCAC 2Q .0516.
5. Reopening for Cause [15A NCAC 2Q .0517]
The Permittee shall submit an application for reopening for cause in accordance with 15A NCAC 2Q .0517.

H. **Changes Not Requiring Permit Modifications**

1. **Reporting Requirements**
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 2Q .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 2Q .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 2Q .0523(c)]

To the extent that emissions trading is allowed under 15A NCAC 2D, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to 15A NCAC 2Q .0523(c).

I.A. Reporting Requirements for Excess Emissions and Permit Deviations

[15A NCAC 2D .0535(f) and 2Q .0508(f)(2)]

“**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 2D; or by a permit condition; or that exceeds an emission limit established in a permit issued under 15A NCAC 2Q .0700. (*Note: Definitions of excess emissions under 2D .1110 and 2D .1111 shall apply where defined by rule.*)

“**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.

Excess Emissions

1. If a source is required to report excess emissions under NSPS (15A NCAC 2D .0524), NESHAPS (15A NCAC 2D .1110 or .1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.
2. If the source is not subject to NSPS (15A NCAC 2D .0524), NESHAPS (15A NCAC 2D .1110 or .1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with 15A NCAC 2D .0535 as follows:
 - a. Pursuant to 15A NCAC 2D .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 2D .0535(f)(3).

Permit Deviations

3. Pursuant to 15A NCAC 2Q .0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) as follows:
 - a. Notify the Regional Supervisor or Director of all other deviations from permit requirements not covered under 15A NCAC 2D .0535 quarterly. 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.B. Other Requirements under 15A NCAC 2D .0535

The Permittee shall comply with all other applicable requirements contained in 15A NCAC 2D .0535, including 15A NCAC 2D .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 2D .0535(c)(1) through (7).
2. 15A NCAC 2D .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 2Q .0508(e) and 2Q .0513(b)]

This permit is issued for a fixed term of five years for facilities subject to Title IV requirements and for a term not to exceed five years in the case of all other facilities. This permit shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete renewal application is submitted at least nine months before the date of permit expiration. If the Permittee or applicant has complied with 15A NCAC 2Q .0512(b)(1), this permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of this permit shall remain in effect until the renewal permit has been issued or denied.

L. **Need to Halt or Reduce Activity Not a Defense** [15A NCAC 2Q .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 2Q .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 2Q .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 2Q .0508(f) and 2Q .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 2Q .0508(n)]

The Permittee shall submit to the DAQ and the EPA (Air and EPCRA Enforcement Branch, EPA, Region 4, 61 Forsyth Street, Atlanta, GA 30303) postmarked on or before March 1 a compliance certification (for the preceding calendar year) by a responsible official with all federally-enforceable terms and conditions in the permit, including emissions limitations, standards, or work practices. 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; and
4. the method(s) used for determining the compliance status of the source during the certification period.

Q. **Certification by Responsible Official** [15A NCAC 2Q .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 2Q .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 2Q .0523.
4. A permit shield does not extend to minor permit modifications made under 15A NCAC 2Q .0515.

S. **Termination, Modification, and Revocation of the Permit** [15A NCAC 2Q .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 2Q .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 2Q .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 2Q .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 2Q .0508(i)(10)]

1. The Permittee shall pay all fees in accordance with 15A NCAC 2Q .0200.
2. Payment of fees may be by check or money order made payable to the N.C. Department of Environment and Natural Resources. 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 2Q .0519.

X. **Annual Emission Inventory Requirements** [15A NCAC 2Q .0207]

The Permittee shall report by **June 30 of each year** the actual emissions of each air pollutant listed in 15A NCAC 2Q .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 2Q .0107 and 2Q .0508(i)(9)]

Whenever the Permittee submits information under a claim of confidentiality pursuant to 15A NCAC 2Q .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 2Q .0107.

Z. **Construction and Operation Permits** [15A NCAC 2Q .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 2Q .0100 and .0300.

AA. **Standard Application Form and Required Information** [15A NCAC 2Q .0505 and .0507]

The Permittee shall submit applications and required information in accordance with the provisions of 15A NCAC 2Q .0505 and .0507.

BB. **Financial Responsibility and Compliance History** [15A NCAC 2Q .0507(d)(4)]

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 2Q .0501(e)]

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 2Q .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. Prevention of Accidental Releases General Duty Clause - Section 112(r)(1) -
FEDERALLY-ENFORCEABLE ONLY**

Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

FF. Title IV Allowances [15A NCAC 2Q .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 2D .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 2D .0300.

HH. Registration of Air Pollution Sources [15A NCAC 2D .0200]

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 2D .0202(b).

II. Ambient Air Quality Standards [15A NCAC 2D .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 2D .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 2Q .0508(i)(16)]

If emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ in support of a permit application or to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 2D .2600 and follow the procedures outlined below:

1. The Permittee shall submit a completed Protocol Submittal Form to the DAQ Regional Supervisor at least 45 days prior to the scheduled test date. A copy of the Protocol Submittal Form may be obtained from the Regional Supervisor.
2. The Permittee shall notify the Regional Supervisor of the specific test dates at least 15 days prior to testing in order to afford the DAQ the opportunity to have an observer on-site during the sampling program.
3. During all sampling periods, the Permittee shall operate the emission source(s) under maximum normal operating conditions or alternative operating conditions as deemed appropriate by the Regional Supervisor or his delegate.
4. The Permittee shall submit **two** copies of the test report to the DAQ. The test report shall contain at a minimum the following information:
 - a. a description of the training and air testing experience of the person directing the test;
 - b. a certification of the test results by sampling team leader and facility representative;
 - c. a summary of emissions results and text detailing the objectives of the testing program, the applicable state and federal regulations, and conclusions about the testing and compliance status of the emission source(s);
 - d. a detailed description of the tested emission source(s) and sampling location(s) process flow diagrams, engineering drawings, and sampling location schematics should be included as necessary;
 - e. all field, analytical, and calibration data necessary to verify that the testing was performed as specified in the applicable test methods;
 - f. example calculations for at least one test run using equations in the applicable test methods and all test results including intermediate parameter calculations; and

- g. documentation of facility operating conditions during all testing periods and an explanation relating these operating conditions to maximum normal operation. If necessary, provide historical process data to verify maximum normal operation.
5. The testing requirement(s) shall be considered satisfied only upon written approval of the test results by the DAQ.
6. The DAQ will review emission test results with respect exclusively to the specified testing objectives as proposed by the Permittee and approved by the DAQ.

KK. Reopening for Cause [15A NCAC 2Q .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 2Q .0513(c).
3. Except for the state-enforceable only portion of the permit, the procedures set out in 15A NCAC 2Q .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 2Q .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 2Q .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. During operation the monitoring recordkeeping and reporting requirements as prescribed by the permit shall be implemented within the monitoring period.

MM. Fugitive Dust Control Requirement [15A NCAC 2D .0540] - STATE ENFORCEABLE ONLY

As required by 15A NCAC 2D .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 2D .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 2Q.0501 and .0523]

1. For modifications made pursuant to 15A NCAC 2Q .0501(c)(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 2Q .0501(d)(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 2Q .0523(a)(1)(C), the Permittee shall notify the Director and EPA (EPA - Air Planning Branch, 61 Forsyth St., Atlanta, GA 30303) in writing at least seven days before the change is made. The written notification shall include:
 - a. a description of the change at the facility;

- b. the date on which the change will occur;
- c. any change in emissions; and
- d. any permit term or condition that is no longer applicable as a result of the change.

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. Mandatory Greenhouse Gas Reporting Requirements [15A NCAC 2Q .0508]
FEDERAL-ENFORCEABLE ONLY**

If the Permittee is subject to requirements of 40 CFR 98.2(a), the Permittee shall submit all required reports to the EPA Administrator in accordance with 40 CFR 98.

ATTACHMENT

List of Acronyms

AOS	Alternate Operating Scenario
BACT	Best Available Control Technology
Btu	British thermal unit
CAA	Clean Air Act
CAIR	Clean Air Interstate Rule
CEM	Continuous Emission Monitor
CFR	Code of Federal Regulations
CAA	Clean Air Act
DAQ	Division of Air Quality
DENR	Department of Environment and Natural Resources
EMC	Environmental Management Commission
EPA	Environmental Protection Agency
FR	Federal Register
GACT	Generally Available Control Technology
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
NAA	Non-Attainment Area
NCAC	North Carolina Administrative Code
NCGS	North Carolina General Statutes
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standard
OAH	Office of Administrative Hearings
PM	Particulate Matter
PM₁₀	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
POS	Primary Operating Scenario
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO₂	Sulfur Dioxide
tpy	Tons Per Year
VOC	Volatile Organic Compound