



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

date, 2009

Mr. Mark Gross
EHS & Facility Manager
Alcoa, Inc.
P.O. Box 576
Badin, North Carolina 28009

Dear Mr. Gross:

SUBJECT: Air Quality Permit No. **03886T30**
Facility ID: 8400004
Alcoa, Inc.
Badin, North Carolina
Stanly County
Fee Class: Title V

In accordance with your completed Air Quality Permit Application for **renewal of your** Title V Permit received **October 27, 2006**, we are forwarding herewith Air Quality Permit No. **03886T30** to Alcoa, Inc., Highway 740, Badin, North Carolina authorizing the construction and operation, of the emission source(s) and associated air pollution control device(s) 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.

Mr. Mark Gross
Date, 2009
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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 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 **date, 2009** until **date, 2014**, 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 Mark J. Cuilla at (919) 733-1499 or Mark.Cuilla@ncmail.net.

Sincerely yours,

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

Enclosure

c: Gregg Worley, EPA Region 4 (with attachment)
Mooresville Regional Office
Central Files

ATTACHMENT to Air Quality Permit No. 03886T30 - Insignificant Activities List

| ID No. | Emission Source Description |
|---------------------------------------|---|
| I-050-CH-1 | Natural gas-fired coke heater (3.9 million Btu per hour heat input) |
| IHot-top-1 through IHot-top-12 | Twelve natural gas-fired holding crucibles (1.5 million Btu per hour heat input each) in the high purity aluminum ingot plant |
| IGen-1 | Emergency generator (100 kW; located in Building 105) |
| Idip-1 | Graphic solvent dip in anode assembly/rodding |
| IDryer-1 | Natural gas-fired ingot dryers (4 million Btu per hour heat input each) |
| Iwash-1 | Eight non-halogenated solvent parts washers |
| IP-9 | Building 050-E: hot oil hitch heater (electrically heated) |
| IP-10 | Building 050-E: hot oil hitch heater (electrically heated) |
| Iladel-1 | Natural gas-fired iron ladle |
| IG-Tanks | Two 1,000 gallon capacity above ground gasoline storage tanks |
| IP-Tanks | Two 1,000 gallon capacity above ground propane storage tanks |
| ID-Tanks | Two 2,500 gallon capacity above ground diesel storage tanks |
| ILiner | Spent pot liner storage |
| ITorches | Ingot plant "can" torches |
| IDross | Dross cooling and storage, ingot plant |

ATTACHMENT to Air Quality Permit No. 03886T30 – Table of Changes

| Page | Section | Description |
|-------------|---|---|
| Cover | - | -amended all dates and permit revision numbers |
| TOC | - | -removed references to Part II here and throughout the permit |
| All | Header | -amended permit revision number |
| 3-6 | Equipment table | -removed equipment per Permittee's request |
| 8 | 2.1 A (table) 2.1 A.1.b | -added source number to applicable regulation -testing rule cross reference correction |
| 9 | 2.1 A.1.c 2.1 A.1.d 2.1 A.1.e 2.1 A.2.a 2.1 A.2.b 2.1 A.2.c | -updated shell language -updated shell language -updated shell language -added ID numbers -added ID numbers -testing rule cross reference correction |
| 10 | 2.1 A.2.d | -updated shell language |
| 11 | 2.1 B.1.b 2.1 B.1.c | -testing rule cross reference correction -updated shell language |
| 12 | 2.1 B.1.d 2.1 B.1.e 2.1 B.1.f 2.1 B.1.g 2.1 B.2.a 2.1 B.2.b 2.1 B.2.c | -updated shell language -added monitoring/recordkeeping requirements for uncontrolled sources -added reporting requirements for uncontrolled sources -added ID numbers -added ID numbers -added ID numbers -testing rule cross reference correction |
| 13 | 2.1 B.2.d 2.1 B.2.e 2.1 B.2.f | -updated shell language -updated shell language -updated shell language |
| 15 | 2.1 C.1.b 2.1 C.1.c 2.1 C.1.d 2.1 C.1.e | -testing rule cross reference correction -updated shell language and added ID numbers -updated shell language -updated shell language |
| 16 | 2.1 C.2.a 2.1 C.2.b 2.1 C.2.d 2.1 C.3.a 2.1 C.3.b 2.1 C.3.c 2.1 C.3.d | -added ID numbers -testing rule cross reference correction -added ID numbers -added ID numbers -added ID numbers -testing rule cross reference correction -updated shell language and added ID numbers |
| 17 | 2.1 C.3.e | -updated shell language and added ID numbers |
| 18 | 2.1 D.1.a 2.1 D.1.b 2.1 D.1.c 2.1 D.1.d 2.1 D.1.e | -added ID numbers -testing rule cross reference correction -updated shell language and added ID numbers -updated shell language -updated shell language |
| 19 | 2.1 D.2.a 2.1 D.2.b 2.1 D.2.c | -added ID numbers -testing rule cross reference correction -updated shell language and added ID numbers |
| 20 | 2.1 E (table) 2.1 E.1.a | -added CAM reference -added ID numbers |

| Page | Section | Description |
|-------------|---|---|
| 21 | 2.1 E.1.b 2.1 E.1.c 2.1 E.1.d 2.1 E.1.e 2.1 E.1.f 2.1 E.1.g | -testing rule cross reference correction -updated shell language and added ID numbers -updated shell language -added monitoring/recordkeeping requirements for uncontrolled sources -added reporting requirements for uncontrolled sources -added ID numbers |
| 22 | 2.1 E.2.a 2.1 E.2.b 2.1 E.2.c 2.1 E.2.d | -added ID numbers -testing rule cross reference correction -updated shell language and added ID numbers -updated shell language and added ID numbers |
| 23-24 | 2.1 E.3 | -added CAM language |
| 24 | 2.1 F (table) 2.1 F.1.a | -added CAM reference -added ID numbers |
| 25 | 2.1 F.1.b 2.1 F.1.c 2.1 F.1.d 2.1 F.1.e 2.1 F.2.a | -testing rule cross reference correction -updated shell language and added ID numbers -updated shell language -added ID numbers -added ID numbers |
| 26 | 2.1 F.2.g 2.1 F.2.k | -testing rule cross reference correction -added “no reporting” language |
| 26-27 | 2.1 F.3 | -added CAM language |
| 28 | 2.1 G.1.a 2.1 G.1.b | -added ID numbers -testing rule cross reference correction |
| 29 | 2.1 G.1.c 2.1 G.1.d 2.1 G.1.e 2.1 G.2.a 2.1 G.2.b 2.1 G.2.c | -updated shell language and added ID numbers -updated shell language -added ID numbers -added ID numbers -added ID numbers -testing rule cross reference correction |
| 30 | 2.1 G.2.d | -updated shell language and added ID numbers |
| 31 | 2.1 H.1.a 2.1 H.1.b 2.1 H.1.c 2.1 H.1.d | -added ID numbers -testing rule cross reference correction -updated shell language and added ID numbers -updated shell language |
| 32 | 2.1 H.1.e 2.1 H.2.a 2.1 H.2.b 2.1 H.2.c 2.1 H.2.d 2.1 H.2.e | -added ID numbers -added ID numbers -added ID numbers -testing rule cross reference correction -updated shell language and added ID numbers -updated shell language and added ID numbers |
| 34 | 2.1 I.1.a 2.1 I.1.b 2.1 I.1.c 2.1 I.1.d 2.1 I.2.a 2.1 I.2.b 2.1 I.2.c | -added ID numbers -testing rule cross reference correction -updated shell language -added “no reporting” language -added ID numbers -testing rule cross reference correction -added ID numbers |
| 35 | 2.1 I.3.a 2.1 I.3.b 2.1 I.3.c 2.1 I.3.d | -added ID numbers -added ID numbers -testing rule cross reference correction -added ID numbers |

| Page | Section | Description |
|-------------|---|---|
| 36 | 2.1 J.1.b 2.1 J.1.d 2.1 J.2.a 2.1 J.2.b | -updated shell language -added ID numbers -added ID numbers -testing rule cross reference correction |
| 37 | 2.1 J.2.c 2.1 J.2.d 2.1 J.2.e 2.1 J.3.a 2.1 J.3.b | -updated shell language and added ID numbers -updated shall language -added ID numbers -added ID numbers -testing rule cross reference correction |
| 37-38 | 2.1 J.3.c | -updated shell language and added ID numbers |
| 38 | 2.2 A.1.c | -added ID numbers |
| 41 | 2.2 A.1.p | -updated shell language |
| 42 | 2.2 B.1.c | -modified testing requirement to require testing upon restart of equipment per MRO request |
| 45 | 2.2 B.1.r | -updated shell language |
| 46 | 2.2 C | -amended equipment list to remove sources per Permittee (specifically all references to Potline II). This was carried throughout permit condition. |
| 46-49 | 2.2 C.1 | -amended MACT language to remove sections applicable to deleted equipment. |
| 50 | 2.2 D.1 | -updated shell language |
| 55 | 2.2 D.1.v | -modified testing requirement to require testing upon restart of equipment per MRO request |
| 58 | 2.2 E | -added table of applicable regulations |
| 58-60 | 2.2 E.2 (table) | -removed toxic emission limits for deleted equipment |
| 61 | 2.2 E.3 | -added last MACT/air toxics compliance language |
| 62-71 | General Conditions | -amended shell conditions (v2.22.1) |



Division of Air Quality

AIR QUALITY PERMIT

| Permit No. | Replaces Permit No.(s) | Effective Date | Expiration Date |
|-----------------|------------------------|-------------------|-------------------|
| 03886T30 | 03886T29 | date, 2009 | date, 2014 |

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: **Alcoa, Inc.**

Facility ID: **8400004**

Facility Site Location: **Highway 740**
City, County, State, Zip: **Baden, Stanly County, North Carolina 28009**
Mailing Address: **P.O. Box 576**
City, State, Zip: **Baden, North Carolina 28009**

Application Number: **8400004.06A**
Complete Application Date: **October 27, 2006**

Primary SIC Code: **3334**
Division of Air Quality, **Mooresville Regional Office**
Regional Office Address: **610 East Center Ave.**
Mooresville, North Carolina 28115

Permit issued this the xxth day of xxxxxx, 2009

Donald R. van der Vaart, Ph.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)

SECTION 3: GENERAL PERMIT CONDITIONS

ATTACHMENT

List of Acronyms

The Division of Air Quality (DAQ), the United States Environmental Protection Agency (EPA), and citizens as defined under the Federal Clean Air Act have the authority to enforce the terms, conditions, and limitations contained in this permit unless otherwise specified.

Under Title 15A NCAC 2Q, the operation of emission source(s) and associated air pollution control device(s) and appurtenances listed in this permit is based on plans, specifications, operating parameters, and other information as submitted in the Air Quality Permit Application.

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

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

| Emission Source ID No. | Emission Source Description | Control Device ID No. | Control Device Description |
|------------------------|--|-----------------------|--|
| Anode Forming | | | |
| 252-CCU-1 | Coal and Coke Receiving – hopper, conveyor, bucket elevator, two coke silos (Nos. 252A and 252B), and coal silo (No. 252C) | 252-DC-12 | One fabric filter (480 square feet of filter area) |
| 050-BM-1 | Anode ball mill, screw conveyors, classifier | 050-C51 | One fabric filter (5,184 square feet of filter area) |
| 050-BC-1 | Dense phase coarse receiver from anode recycle | 050-BC-153 | One fabric filter (378 square feet of filter area) |
| 050-BCV-123 | Dense phase fines tank (No. BC152) and anode recycle screens | 050-BC-152 | One fabric filter (250 square feet of filter area) |
| 050-GB | Hammermill/screens/screw conveyors/scales (general building exhaust) | 050-C54 | One fabric filter (5,900 square feet of filter area) |
| 050-C59 | Coke tank | | |
| 050-C60 | Coke tank | | |
| 050-C66 | Coke tank | | |
| 050-C67 | Coke tank | | |
| 050-B21 | Scrap tank | | |
| 050-B22 | Scrap tank | | |
| 050-C-65 | Coke injection fines silo | | |
| 050 | Scrap house | 050-C11 | One cyclone (60 inches in diameter) |
| 050-B-1 | Scrap pan conveyor | | |
| 050-B-2 | Scrap hammermill | | |
| 050-B-3 | Scrap screw conveyor | 050-B12 | One fabric filter (5,000 square feet of filter area) |
| 050-B-7 | Scrap bucket elevator | | |
| 050-B-8 | Scrap screens | | |
| 050-B-8A | Scrap screw conveyor | | |
| 050-B-10 | Scrap bucket elevator | | |
| 050-B-14A | Scrap screw conveyor | | |

| Emission Source ID No. | Emission Source Description | Control Device ID No. | Control Device Description |
|--|---|--|---|
| 050-M59 050-M60 050-M69 050-M90 050-M91 050-M92 050-5503VPS (MACT, Subpart LL) | Paste mixer No. 1 Paste mixer No. 2 Mixer conveyor belt Mixer conveyor belt Mixer conveyor belt Mixer conveyor belt Anode press/vacuum pump | 050-DCS-1 | One coke injected venturi One fabric filter (9,989 square feet of filter area) |
| 050-C-64 050-250C ⁽¹⁾ | Coke enriched fines silo Pitch tank | | |
| Cathode Production | | | |
| 139-T-10 | Cathode graphite super fines tank | 139-G-16 | One fabric filter (170 square feet of filter area) |
| 139-CBM-1 | Cathode ball mill No. 1, bucket elevator, screen, impactor, scale, baked scrap tank (No. T-9), five coal tanks (Nos. T-1 through T-5), cyclone and classifier | 139-G-9 | One fabric filter (2,667 square feet of filter area) |
| 014-CMM-1 | Cathode milling machine No. 1 | 014-BS-1 | One fabric filter (573 square feet of filter area) |
| 014-CMM-2 | Cathode milling machine No. 2 | 014-BS-8 | One fabric filter (478 square feet of filter area) |
| 139-CH-2 | Cathode chip vacuum transport and chip tank | 139-BS-4 | One fabric filter (170 square feet of filter area) |
| 139-PST ⁽¹⁾ | Cathode pitch storage tank (25,000 gallon capacity) | NA | NA |
| 139-M-1 ⁽¹⁾ | Cathode batch mixer | NA | NA |
| 139-M-2 ⁽¹⁾ | Cathode batch mixer | NA | NA |
| 139-B-4 ⁽¹⁾ | Vibrating press | NA | NA |
| 139-CBC ⁽¹⁾ | Cooling rack | NA | NA |
| Anode/Cathode Bake | | | |
| 261-ABFP-1 261-ABFP-2 | Bake furnace packing material handling and screening No. 1 and No. 2 | DC-261-E | One fabric filter (3,519 square feet of filter area) |
| 261-FASILO | Fresh alumina storage silo | 261-CD-BV2 | One fabric filter (2,600 square feet of filter area) |
| 261-RASILO | Reacted alumina storage silo | 261-CD-BV | One fabric filter (3,600 square feet of filter area) |
| 261-ABF-1 261-ABF-2 (MACT, Subpart LL) | Two natural gas-fired anode/cathode bake furnaces Nos. 1 and 2 (82.4 million Btu per hour maximum heat input capacity, each) | 261-DCC 261-CD-AVR 261-CD-AVR-DC | One direct contact condenser (temperature controlled water injection rate 7-15 gpm) Alumina injected venturi scrubber (1.0-5.0 tph dry injection rate) One fabric filter (6,875 square feet of filter area) |
| 261-SHC | Initial stub hole cleaning station No. 1 | 261-SHC-DC | One fabric filter (406 square feet of filter area) |
| 262-SHC | Initial stub hole cleaning station No. 2 | 262-SHC-DC | One fabric filter (406 square feet of filter area) |

| Emission Source ID No. | Emission Source Description | Control Device ID No. | Control Device Description |
|--|--|------------------------------|---|
| Anode Assembly | | | |
| 232-SHC | Final stub hole cleaning station | 232-SHC-DC | One fabric filter (406 square feet of filter area) |
| 232-IMF-1 232-IMF-2 | Iron induction furnaces Nos. 1 and 2 | 232-DC-2 | One fabric filter (6,900 square feet of filter area) |
| Alumina/Fluoride Receiving and Distribution | | | |
| 140-DC | Railcar alumina unloading hopper, airslide, bucket elevator | 140-DC-DC | One fabric filter (11,520 square feet of filter area) |
| 140-A through 140-C | Three alumina tanks | NA | NA |
| ASC-1 | E/W Airslide – East | ASC-1-DC | One fabric filter (250 square feet of filter area) |
| ASC-2 | E/W Airslide – West | ASC-2-DC | One fabric filter (250 square feet of filter area) |
| ASC-3 | N/S Airslide – North | ASC-3-DC | One fabric filter (250 square feet of filter area) |
| ASC-4 | N/S Airslide – South | ASC-4-DC | One fabric filter (250 square feet of filter area) |
| 140-G 160-R 140-F | Potline I pure ore tank Potline I reacted ore tank and bucket elevator Potline I railcar unload pneumatic transfer and fluoride storage tank | CD-145-DC | One fabric filter (1,120 square feet of filter area) |
| 140D | Railcar unload pneumatic transfer and fluoride storage tank | CD-140-D CD-145-DC | One fabric filter (750 square feet of filter area) One fabric filter (1,120 square feet of filter area) |
| Aluminum Reduction | | | |
| 201-PL-1 202-PL-1 (MACT, Subpart LL) | 62 aluminum ore reduction cells 62 aluminum ore reduction cells | 160-AR-PL1 160-FF-PL1 | Eight alumina fluid bed scrubbers Eight fabric filters (seven at 36,000 and one at 10,750 square feet of filter area) ⁽²⁾ |
| Anode Recycle | | | |
| 204M-001 | Spent anode cleaning and handling | 204M-BH-1 | One fabric filter (14,500 square feet of filter area) |
| 232-ABBP-1 | Butt blasting | 232-DC-6 | One fabric filter (2,352 square feet of filter area) |
| 232-ABC-1 | Butt crusher and hammermill | 232-DC-7 | One fabric filter (7,560 square feet of filter area) |
| 232-ARBP-1 | Rod brushing | 232-DC-5 | One fabric filter (1,920 square feet of filter area) |
| Bath Crushing | | | |
| 204H-BM-1 | Ball mill, screw conveyor, two bucket elevators, vibratory feeder, screens, two screw conveyors | DC-204H-1 | One fabric filter (25,000 square feet of filter area) |
| 204-T2 204-T6 | Two ball mill fines tanks | DC-204H-3 | One fabric filter (457 square feet of filter area) |
| ASC-5 204-T5 | Airslide Alumina tank | DC-204H-2 | One fabric filter (1,270 square feet of filter area) |

| Emission Source ID No. | Emission Source Description | Control Device ID No. | Control Device Description |
|--|--|-----------------------|--|
| Ingot Plant – High Purity Aluminum | | | |
| 134-10 134-11 134-12 134-13 | Four natural gas-fired melting/holding furnaces (4,000 pounds per hour input capacity and 8 million Btu per hour maximum heat input capacity, each) | NA | NA |
| 134-10-PF1 134-11-PF1 134-12-PF1 134-13-PF1 | Four natural gas-fired process furnaces (4,000 pounds per hour input capacity and 6.8 million Btu per hour maximum heat input capacity, each) | NA | NA |
| 134-10-PF2 134-11-PF2 134-12-PF2 134-13-PF2 (MACT, Subpart RRR) | Four natural gas-fired process furnaces (4,000 pounds per hour input capacity and 1.6 million Btu per hour maximum heat input capacity, each) | NA | NA |
| Miscellaneous | | | |
| 206P-SB-1 | Shot blast cleaning machine | SBDC-1 | One fabric filter (410 square feet of filter area) |
| 044-GMP-1 | Graphite machining | 044-DC-3 | One fabric filter (100 square feet of filter area) |
| 053-WP-1 | Woodworking process | DWC-1 | One dust collection system with settling chamber |

⁽¹⁾ These emission sources are insignificant for Title V purposes; however, they are permitted pursuant to state-enforceable only requirements.

⁽²⁾ Units are considered a single control device under 40 CFR 63, Subpart LL

SECTION 2 - SPECIFIC LIMITATIONS AND CONDITIONS

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

The emission source(s) and associated air pollution control device(s) 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:

- A. Coal and coke receiving (ID No. 252-CCU-1) including hopper, conveyor, bucket elevator, two coke silos (Nos. 252A and 252B) and coal silo (No. 252C) with associated fabric filter (ID No. 252-DC-12)**

Dense phase coarse receiver from anode recycle (ID No. 050-BC-1) with associated fabric filter (ID No. 050-BC-153)

Anode ball mill, screw conveyors, classifier (ID No. 050-BM-1) with associated fabric filter (ID No. 050-C51)

Dense phase fines tank and anode recycle process (ID No. 050-BCV-123) with associated fabric filter (ID No. 050-BC-152)

**Hammermill/screens/screw conveyors/scales (ID No. 050-GB),
Four coke tanks (ID Nos. 050-C59, 050-C60, 050-C66, and 050-C67),
Two scrap tanks (ID Nos. 050-B21 and 050-B22), and
Coke injection fines silo (ID No. 050-C-65),
with associated fabric filter (ID No. 050-C54)**

**Scrap house (ID No. 050),
Scrap pan conveyor (ID No. 050-B-1),
Scrap hammermill (ID No. 050-B-2),
Three scrap screw conveyors (ID Nos. 050-B-3, 050-B-8A, and 050-B-14A),
Two scrap bucket elevators (ID Nos. 050-B-7 and 050-B-10), and
Scrap screens (ID No. 050-B-8),
with associated cyclone (ID No. 050-C11) installed in series with one fabric filter (ID No. 050-B12)**

**Two paste mixers Nos. 1 and 2 (ID No. 050-M59 and 050-M60),
Four mixer conveyor belts (ID Nos. 050-M69 and 050-M90 through 050-M92),
Anode press/vacuum pump (ID No. 050-5503VPS),
Coke enriched fines silo (ID No. 050-C-64), and
Pitch tank (ID No. 050-250C),
with associated coke injected venturi scrubber and fabric filter (ID No. 050-DCS-1)**

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 | <p>(Excludes source ID No. 050-250C) (For process rates up to 30 tons per hour) $E = 4.10 \times P^{0.67}$ (For process rates greater than 30 tons per hour) $E = 55.0 \times P^{0.11} - 40$ Where E =allowable emission rate in pounds per hour P =process weight in tons per hour</p> | 15A NCAC 2D .0515 |
| Visible emissions | <p>(ID Nos. 225-CCU-1 and 050-BC-123 only) 20 percent opacity</p> <p>(ID Nos. 050-BM-1, 050-BCV-1, 050-GB, 050-C59, 050-C60, 050-C66, 050-C67, 050-B21, 050-B22, 050-C-65, 050, 050-B-1, 050-B-2, 050-B-3, 050-B-8A, 050-B-14A, 050-B-7, 050-B-10, and 050-B-8 only) 40 percent opacity</p> | 15A NCAC 2D .0521 |
| POM | <p>(ID Nos. 059-M59, 050-M60, 050-M69, 050-M90, 050-M91, 050-M92, and 050-5503VPS only) National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants See Section 2.2 A</p> | 15A NCAC 2D .1111 (40 CFR 63, Subpart LL) |
| Toxic air pollutants | <p>State-enforceable only See Section 2.2 E.1</p> | 15A NCAC 2D .1100 |

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from each source listed above shall not exceed an allowable emission rate as calculated by the following formulas:

(For process rates up to 30 tons per hour)

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

(For process rates greater than 30 tons per hour)

$$E = 55.0 \times P^{0.11} - 40$$

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. If the results of this test are above the limit given in Section 2.1 A.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 **these sources** shall be controlled by **seven fabric filters, one cyclone, and one coke injected venturi scrubber as described above**. 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 are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:**
- i. a monthly visual inspection of the **system ductwork, fabric filter, cyclone, and coke injected venturi scrubber units** for leaks; and
 - ii. an annual (for each 12-month period following the initial inspection) internal inspection of each control device for structural integrity and filter condition.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the **ductwork, fabric filters, cyclone, and coke injected venturi scrubber** are not inspected and maintained.
- d. The results of 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 for each control device:
- i. the date and time of each recorded action;
 - ii. the results of each inspection;
 - iii. the results of any maintenance performed on **any control device; 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 **any control device** 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 (**ID Nos. 225-CCU-1 and 050-BC-123**) 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 these sources (**ID Nos. 050-BM-1, 050-BCV-1, 050-GB, 050-C59, 050-C60, 050-C66, 050-C67, 050-B21, 050-B22, 050-C-65, 050, 050-B-1, 050-B-2, 050-B-3, 050-B-8A, 050-B-14A, 050-B-7, 050-B-10, and 050-B-8**) 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 limits given in Section 2.1 A.2.a and b above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

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

- d. To assure compliance, once a week the Permittee shall observe the emission points of **these sources** for any visible emissions above normal. **The weekly observation must be made for each week of the calendar year period to ensure compliance with this requirement.** If visible emissions from these sources are observed to be above normal, the Permittee shall either:
- i. **take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or**
 - ii. **demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1 A.2.a and 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.

- 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.

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

- f. The Permittee shall submit s summary report of the observations 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.

B. Cathode ball mill No. 1, bucket elevator, screen, impactor, scale, baked scrap tank, five coal tanks, cyclone, and classifier (ID No. 139-CBM-1) with associated fabric filter (ID No. 139-G-9)

Cathode milling machine No. 1 (ID No. 014-CMM-1) with associated fabric filter (ID No. 014-BS-1)

Cathode milling machine No. 2 (ID No. 014-CMM-2) with associated fabric filter (ID No. 014-BS-8)

Cathode chip vacuum transport and chip tank (ID No. 139-CH-2) with associated fabric filter (ID No. 139-BS-4)

Cathode graphite super fines tank (ID No. 139-T-10) with associated fabric filter (ID No. 139-G-16)

Cathode batch mixers (ID Nos. 139-M-1 and 139-M-2)

Cathode vibrating press (ID No. 139-B-4)

Cathode cooling rack (ID No. 139-CBC)

Cathode pitch storage tank (ID No. 139-PST)

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 | (For process rates up to 30 tons per hour) $E = 4.10 \times P^{0.67}$ (For process rates greater than 30 tons per hour) $E = 55.0 \times P^{0.11} - 40$ Where E =allowable emission rate in pounds per hour P =process weight in tons per hour | 15A NCAC 2D .0515 |
| Visible emissions | (ID Nos. 139-CBM-1, 014-CMM-1, 014-CMM-2, 139-CH-2, and 139-T-10 only) 20 percent opacity (ID Nos. 139-M-1, 139-M-2, 139-B-4, 139-CBC, and 139-PST only) 40 percent opacity | 15A NCAC 2D .0521 |
| Toxic air pollutants | State-enforceable only See Section 2.2 E.1 | 15A NCAC 2D .1100 |

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from each source listed above shall not exceed an allowable emission rate as calculated by the following formulas:

(For process rates up to 30 tons per hour)

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

(For process rates greater than 30 tons per hour)

$$E = 55.0 \times P^{0.11} - 40$$

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. If the results of this test are above the limit given in Section 2.1 B.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 **these sources (ID Nos. 139-CBM-1, 014-CMM-1, 014-CMM-2, 139-CH-2, and 139-T-10)** shall be controlled by **five fabric filters (ID Nos. 139-G-9, 014-BS-1, 014-BS-8, 139-BS-4, and 139-G-16)** as described above. 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 are 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 fabric filter units for leaks; and
 - an annual (for each 12-month period following the initial inspection) internal inspection of each control device for structural integrity and filter condition.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the ductwork and fabric filters are not inspected and maintained.

- d. The results of 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 for each control device:
 - i. the date and time of each recorded action;
 - ii. the results of each inspection;
 - iii. the results of any maintenance performed on **any control device; 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.

- e. **The Permittee shall maintain production records for these sources (ID Nos. 139-M-1, 139-M-2, 139-B-4, 139-CBC, and 139-PST) such that the process rates "P" in tons per hour, as specified by the formulas contained above can be derived, 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 or the types of materials and finishes are not monitored.**

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

- f. **No reporting for particulate emissions is required for these sources (ID Nos. 139-M-1, 139-M-2, 139-B-4, 139-CBC, and 139-PST).**
- g. The Permittee shall submit the results of any maintenance performed on **these fabric filters (ID Nos. 139-G-9, 014-BS-1, 014-BS-8, 139-BS-4, and 139-G-16)** within 30 days of a written request by the DAQ.
- h. 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 **(ID Nos. 139-CBM-1, 014-CMM-1, 014-CMM-2, 139-CH-2, and 139-T-10)** 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 these sources **(ID Nos. 139-M-1, 139-M-2, 139-B-4, 139-CBC, and 139-PST)** 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 limits given in Section 2.1 B.2.a and b above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

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

- d. To assure compliance, once a week the Permittee shall observe the emission points of **these sources (ID Nos. 139-CBM-1, 014-CMM-1, 014-CMM-2, and 139-CH-2)** for any visible emissions above normal. **The weekly observation must be made for each week of the calendar year period to ensure compliance with this requirement.** If visible emissions from these sources are observed to be above normal, the Permittee shall either:
- 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 (Method 9) for 12 minutes is below the limit given in Section 2.1 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.

- e. To assure compliance, once a month the Permittee shall observe the emission points of **this source (ID No. 139-T-10)** for any visible emissions above normal. **The monthly observation must be made for each week of the calendar year period to ensure compliance with this requirement.** If visible emissions from these sources are observed to be above normal, the Permittee shall either:
- 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 (Method 9) for 12 minutes is below the limit given in Section 2.1 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.

- f. To assure compliance, once a month the Permittee shall observe the emission points of **these sources (ID Nos. 139-M-1, 139-M-2, 139-B-4, 139-CBC, and 139-PST)** for any visible emissions above normal. **The monthly observation must be made for each week of the calendar year period to ensure compliance with this requirement.** If visible emissions from these sources are observed to be above normal, the Permittee shall either:
- 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 (Method 9) for 12 minutes is below the limit given in Section 2.1 B.2.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.

- g. 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:
- 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 .0521 if these records are not maintained.

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

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

- C. **Initial stub hole cleaning station No. 1 (ID No. 261-SHC) with associated fabric filter (ID No. 261-SHC-DC)**
Initial stub hole cleaning station No. 2 (ID No. 262-SHC) with associated fabric filter (ID No. 262-SHC-DC)
Bake furnace packing material handling and screening No. 1 and No. 2 (ID Nos. 261-ABFP-1 and 261-ABFP-2) with associated fabric filter (ID No. DC-261-E)
Fresh alumina silo (ID No. 261-FASILO) with associated fabric filter (ID No. 261-CD-BV2)
Reacted alumina storage silo (ID No. 261-RASILO) with associated fabric filter (ID No. 261-CD-BV)
Two natural gas-fired anode/cathode bake furnaces Nos. 1 and 2 (ID Nos. 261-ABF-1 and 261-ABF-2) with associated direct contact condenser (ID No. 261-DCC) installed in series with one (alumina injected venturi scrubber (ID No. 261-CD-AVR) installed in series with one fabric filter (ID No. 261-CD-AVR-DC)

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 | (For process rates up to 30 tons per hour) $E = 4.10 \times P^{0.67}$ (For process rates greater than 30 tons per hour) $E = 55.0 \times P^{0.11} - 40$ Where E = allowable emission rate in pounds per hour P = process weight in tons per hour | 15A NCAC 2D .0515 |
| Sulfur dioxide | (ID Nos. 261-ABF-1 and 261-ABF-2 only) 2.3 pounds per million Btu heat input | 15A NCAC 2D .0516 |
| Visible emissions | (ID Nos. 261-SHC, 262-SHC, 261-FASILO, and 261-RASILO only) 20 percent opacity (ID Nos. 261-ABFP-1 and 261-ABFP-2 only) 40 percent opacity | 15A NCAC 2D .0521 |
| Fluorides and POM | (ID Nos. 261-ABF-1 and 261-ABF-2 only) National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants See Section 2.2 B | 15A NCAC 2D .1111 (40 CFR 63, Subpart LL) |
| Toxic air pollutants | (ID Nos. 261-ABF-1 and 261-ABF-2 only) State-enforceable only See Section 2.2 E.1 | 15A NCAC 2D .1100 |

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from each source listed above shall not exceed an allowable emission rate as calculated by the following formulas:

(For process rates up to 30 tons per hour)

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

(For process rates greater than 30 tons per hour)

$$E = 55.0 \times P^{0.11} - 40$$

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. If the results of this test are above the limit given in Section 2.1 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 **these sources** shall be controlled by **six fabric filters (ID Nos. 261-SHC-DC, 262-SHC-DC, DC-261-E, 261-CD-BV2, 261-CD-BV, and 261-CD-AVR-DC), one direct contact condenser (ID No. 261-DCC) and one alumina injected venturi scrubber (ID No. 261-CD-AVR) as described above.** 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 are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:**
- i. a monthly visual inspection of the system ductwork, fabric filter, direct contact condenser, and alumina injected venturi scrubber units for leaks; and
 - ii. an annual (for each 12-month period following the initial inspection) internal inspection of each control device for structural integrity and filter condition.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the ductwork and fabric filters are not inspected and maintained.
- d. The results of 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 for each control device:
- i. the date and time of each recorded action;
 - ii. the results of each inspection;
 - iii. the results of any maintenance performed on **any control device; 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 **any control device** 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 .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

- a. Emissions of sulfur dioxide from these sources (**ID Nos. 261-ABF-1 and 261-ABF-2**) 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. If the results of this test are above the limit given in Section 2.1 C.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

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

- c. The Permittee shall maintain records of the sulfur content of each shipment of pitch, coke, and coal.
- d. No reporting is required for sulfur dioxide from these sources (**ID Nos. 261-ABF-1 and 261-ABF-2**).

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

- a. Visible emissions from these sources (**ID Nos. 261-SHC, 262-SHC, 261-FASILO, and 261-RASILO**) 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 these sources (**ID Nos. 261-ABFP-1 and 261-ABFP-2**) 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 limits given in Section 2.1 C.3.a and b above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

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

- d. To assure compliance, once a week the Permittee shall observe the emission points of **these sources (ID Nos. 261-SHC, 262-SHC, 261-ABFP-1 and 261-ABFP-2)** for any visible emissions above normal. **The weekly observation must be made for each week of the calendar year period to ensure compliance with this requirement.** If visible emissions from these sources are observed to be above normal, the Permittee shall either:
 - i. **take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or**
 - ii. **demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1 C.3.a and 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.

- e. To assure compliance, once a month the Permittee shall observe the emission points of these sources (**ID Nos. 261-FASILO and 261-RASILO**) for any visible emissions above normal. The monthly observation must be made for each week of the calendar year period to ensure compliance with this requirement. If visible emissions from these sources are observed to be above normal, the Permittee shall either:
 - i. take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
 - ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1 C.3.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.

- f. 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.

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

- g. The Permittee shall submit s summary report of the observations 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.

D. Final stub hole cleaning station (ID No. 232-SHC) with associated fabric filter (ID No. 232-SHC-DC)

Two iron induction furnaces Nos. 1 and 2 (ID Nos. 232-IMF-1 and 232-IMF-2) with associated fabric filter (ID No. 232-DC-2)

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 | (For process rates up to 30 tons per hour) $E = 4.10 \times P^{0.67}$ (For process rates greater than 30 tons per hour) $E = 55.0 \times P^{0.11} - 40$ Where E =allowable emission rate in pounds per hour P =process weight in tons per hour | 15A NCAC 2D .0515 |
| Visible emissions | 20 percent opacity | 15A NCAC 2D .0521 |
| Toxic air pollutants | (ID Nos. 232-IMF-1 and 232-IMF-2 only) State-enforceable only See Section 2.2 E.1 | 15A NCAC 2D .1100 |

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from **these sources (ID Nos. 232-SHC, 232-IMF-1 and 232-IMF-2)** shall not exceed an allowable emission rate as calculated by the following formulas:

(For process rates up to 30 tons per hour)

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

(For process rates greater than 30 tons per hour)

$$E = 55.0 \times P^{0.11} - 40$$

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**. If the results of this test are above the limit given in Section 2.1 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 **these sources (ID Nos. 232-SHC, 232-IMF-1 and 232-IMF-2)** shall be controlled by **two fabric filters (ID Nos. 232-SHC-DC and 232-DC-2)** as described above. 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 are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:**
- i. a monthly visual inspection of the system ductwork and fabric filter units for leaks; and
 - ii. an annual (for each 12-month period following the initial inspection) internal inspection of each control device for structural integrity and filter condition.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the ductwork and fabric filters are not inspected and maintained.
- d. The results of 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 for each control device:
- i. the date and time of each recorded action;
 - ii. the results of each inspection;
 - iii. the results of any maintenance performed on **any control device; 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 **any control device** 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 (**ID Nos. 232-SHC, 232-IMF-1 and 232-IMF-2**) 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 limits given in Section 2.1 D.2.a above, 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 week the Permittee shall observe the emission points of **these sources (ID Nos. 232-SHC, 232-IMF-1 and 232-IMF-2)** for any visible emissions above normal. **The weekly observation must be made for each week of the calendar year period to ensure compliance with this requirement.** If visible emissions from these sources are observed to be above normal, the Permittee shall either:

- i. **take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or**
- ii. **demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1 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.

- 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.

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

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

- E. Potline I pure ore tank (ID No. 140-G),
Potline I reacted ore tank and bucket elevator (ID No. 160-R), and
Potline I railcar unload pneumatic transfer and fluoride storage tank (ID No. 140-F),
with associated fabric filter (ID No. CD-145-DC)**

Railcar unloading hopper, airslide, bucket elevator (ID No. 140-DC) with associated fabric filter (ID No. 140-DC-DC)

E/W airslide – East (ID No. ASC-1) with associated fabric filter (ID No. ASC-1-DC)

E/W airslide – West (ID No. ASC-2) with associated fabric filter (ID No. ASC-2-DC)

N/S airslide – North (ID No. ASC-3) with associated fabric filter (ID No. ASC-3-DC)

N/S airslide – South (ID No. ASC-4) with associated fabric filter (ID No. ASC-4-DC)

Railcar unload pneumatic transfer and fluoride storage tank (ID No. 140D) with associated fabric filter (ID No. CD-140-D) venting to fabric filter (ID No. CD-145-DC)

Three alumina tanks (ID Nos. 140-A, 140-B, and 140-C)

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 | (For process rates up to 30 tons per hour) $E = 4.10 \times P^{0.67}$ (For process rates greater than 30 tons per hour) $E = 55.0 \times P^{0.11} - 40$ Where E =allowable emission rate in pounds per hour P =process weight in tons per hour | 15A NCAC 2D .0515 |
| Visible emissions | 40 percent opacity | 15A NCAC 2D .0521 |
| Particulate matter | (ID No. 140-DC-DC only) Compliance Assurance Monitoring | 15A NCAC 2D .0614 |
| Toxic air pollutants | (ID Nos. 140-G, 160-R, 140-F, 140D, 140-A, 140-B, and 140-C only) State-enforceable only See Section 2.2 E.1 | 15A NCAC 2D .1100 |

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from **these sources (ID Nos. 140-G, 160-R, 140-F, 140-DC, ASC-1 through ASC-4, 140D, and 140-A through 140-C)** shall not exceed an allowable emission rate as calculated by the following formulas:

(For process rates up to 30 tons per hour)

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

(For process rates greater than 30 tons per hour)

$$E = 55.0 \times P^{0.11} - 40$$

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. If the results of this test are above the limit given in Section 2.1 E.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 **these sources (ID Nos. 140-G, 160-R, 140-F, 140-DC, ASC-1 through ASC-4, and 140D)** shall be controlled by seven fabric filters (**ID Nos. CD-145-DC, 140-DC-DC, ASC-1-DC, ASC-2-DC, ASC-3-DC, ASC-4-DC, and CD-140-D**) as described above. 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 are 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 fabric filter units for leaks; and
 - an annual (for each 12-month period following the initial inspection) internal inspection of each control device for structural integrity and filter condition.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the ductwork and fabric filters are not inspected and maintained.
- d. The results of 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 for each control device:
- the date and time of each recorded action;
 - the results of each inspection;
 - the results of any maintenance performed on **any control device; 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.
- e. **The Permittee shall maintain production records for these sources (ID Nos. 140-A, 140-B, and 140-C) such that the process rates "P" in tons per hour, as specified by the formulas contained above can be derived, 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 or the types of materials and finishes are not monitored.**

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

- f. **No reporting for particulate emissions is required for these sources (ID Nos. 140-A, 140-B, and 140-C).**
- g. The Permittee shall submit the results of any maintenance performed on these **fabric filters (ID Nos. CD-145-DC, 140-DC-DC, ASC-1-DC, ASC-2-DC, ASC-3-DC, ASC-4-DC, and CD-140-D)** within 30 days of a written request by the DAQ.
- h. 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 (ID Nos. 140-G, 160-R, 140-F, 140-DC, ASC-1 through ASC-4, 140D, and 140-A through 140-C)** 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 limits given in Section 2.1 E.2.a above, 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 week the Permittee shall observe the emission points of **these sources (ID Nos. 140-G, 160-R, 140-F, 140-DC, ASC-1 through ASC-4, and 140D)** for any visible emissions above normal. **The weekly observation must be made for each week of the calendar year period to ensure compliance with this requirement.** If visible emissions from these sources are observed to be above normal, the Permittee shall either:
- 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 (Method 9) for 12 minutes is below the limit given in Section 2.1 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.

- d. To assure compliance, once a month the Permittee shall observe the emission points of **these sources (ID Nos. 140-A through 140-C)** for any visible emissions above normal. **The monthly observation must be made for each week of the calendar year period to ensure compliance with this requirement.** If visible emissions from these sources are observed to be above normal, the Permittee shall either:
- 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 (Method 9) for 12 minutes is below the limit given in Section 2.1 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.

- 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:
- 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 .0521 if these records are not maintained.

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

- f. The Permittee shall submit a summary report of the observations 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 .0614: COMPLIANCE ASSURANCE MONITORING

- a. Per 40 CFR 64 and 15A NCAC 2D .0614, the Permittee shall comply with the following.
- b. Background
 - i. Emission unit.
 - (A) Description. Railcar unloading hopper, airslide, bucket elevator (**ID No. 140-DC**).
 - ii. Applicable Regulation, Emission Limit, and Monitoring Requirements.
 - (A) Regulation. 15A NCAC 2D .0515.
 - (B) Emission Limit
 - $E = 4.10 \times P^{0.67}$ Where E = allowable emission rate in pounds per hour and P = process weight in tons per hour.
 - (C) Control Technology. One fabric filter (**ID No. 140-DC-DC**).
- c. Monitoring Approach. The key elements of the monitoring approach for particulate matter, including parameter to be monitored, parameter ranges and performance criteria are presented in the following table.

| | Indicator |
|---------------------------------------|--|
| I. Indicator | Visible emissions |
| Measurement Approach | Visible emissions from the fabric filter will be monitored daily using EPA Reference Method 22-like procedures. |
| II. Indicator Range | An excursion is defined as the presence of visible emissions above normal. Excursions trigger an inspection, corrective action, and a reporting requirement. |
| QIP Threshold | The QIP threshold is five excursions in a 6-month reporting period. |
| III. Performance Criteria | |
| A. Date Representativeness | Measurements are being made at the emission point (fabric filter outlet). |
| B. Verification of Operational Status | NA |
| C. QA/QC Practices | The observer will be familiar with Reference Method 22 and follow Method 22-like procedures. |
| D. Monitoring Frequency | Observations are done daily. |
| Data Collection Procedures | VE observations are documented by the observer. |
| Averaging Periods | NA |

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

- d. The Permittee is not required to comply with this permit condition until such time as the sources are restarted. Within 10 days of restart of the applicable equipment, the Permittee shall notify the Regional Supervisor, Mooresville Regional Office of this fact.
- 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.

F. Sixty-two aluminum ore reduction cells in Building 201 (ID No. 201-PL-I), and Sixty-two aluminum ore reduction cells in Building 202 (ID No. 202-PL-I), with eight parallel alumina fluid bed scrubbers (ID No. 160-AR-PLI) each in series with eight fabric filters (ID No. 160-FF-PLI)

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 | (For process rates up to 30 tons per hour) $E = 4.10 \times P^{0.67}$ (For process rates greater than 30 tons per hour) $E = 55.0 \times P^{0.11} - 40$ Where E =allowable emission rate in pounds per hour P =process weight in tons per hour | 15A NCAC 2D .0515 |
| Fluorides | 95 percent capture and 98.5 percent control of fluoride emissions (93.6 percent overall control) and work practice standards | 15A NCAC 2D .0529 |
| Fluorides | Compliance Assurance Monitoring | 15A NCAC 2D .0614 |
| Fluorides | National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants See Section 2.2 C | 15A NCAC 2D .1111 (40 CFR 63, Subpart LL) |
| Toxic air pollutants | State-enforceable only See Section 2.2 E.1 | 15A NCAC 2D .1100 |

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from **these sources (ID Nos. 201-PL-I and 202-PL-I)** shall not exceed an allowable emission rate as calculated by the following formulas:

(For process rates up to 30 tons per hour)

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

(For process rates greater than 30 tons per hour)

$$E = 55.0 \times P^{0.11} - 40$$

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. If the results of this test are above the limit given in Section 2.1 F.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 these sources (ID Nos. 201-PL-I and 202-PL-I) shall be controlled by eight alumina fluid bed scrubbers (ID No. 160-AR-PLI) and eight fabric filters (ID No. 160-FF-PLI) as described above. 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 are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
- i. a monthly visual inspection of the system ductwork, alumina fluid bed scrubber, and fabric filter units for leaks; and
 - ii. an annual (for each 12-month period following the initial inspection) internal inspection of each control device for structural integrity and filter condition.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the ductwork, alumina fluid bed scrubbers, and fabric filters are not inspected and maintained.

- d. The results of 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 for each control device:
- i. the date and time of each recorded action;
 - ii. the results of each inspection;
 - iii. the results of any maintenance performed on any control device; 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 these control devices (ID Nos. 160-AR-PLI and 160-FF-PLI) 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 .0529: FLUORIDE EMISSIONS FROM PRIMARY ALUMINUM REDUCTION PLANTS

- a. 95 percent of the fluoride emissions shall be captured from these sources (ID Nos. 201-PL-I and 202-PL-I) and 98.5 percent of the captured fluoride emissions shall be removed before the exhaust gas is discharged into the atmosphere.
- b. Aluminum reduction cell hood covers shall be in good repair and properly positioned over the prebake cells except during pot working operations.
- c. The amount of time that hood covers are removed during pot working operations shall be minimized.
- d. If the hooding system is equipped with a dual low and high hood exhaust rate, the high exhaust rate shall be used whenever hood covers are removed and the normal exhaust rate shall be used when the hood covers are in place.
- e. The occurrence of fuming pots shall be minimized and the cause of a fuming pot corrected as soon as practical.

- f. If the tapping crucibles are equipped with hoses which return aspirator air under the hood, the hoses shall be in good repair and the air return system shall function properly.

Testing [15A NCAC 2D .2601]

- g. 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 F.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0529.

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

- h. Cell hood covers and aspirator air return hoses on tapping crucibles so equipped shall be inspected an minimum of weekly to ensure structural integrity and proper operation.
- i. Aluminum reduction cells shall be inspected a minimum of weekly to determine presence of any fuming pots of hood covers left off of cells after pot working operations have been completed.
- j. The results of monitoring 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 contain the following:
 - i. the date of each inspection and the findings of the inspection; and
 - ii. any corrective actions performed and the date that the actions were performed.
 The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0529 if these records are not maintained.
- k. No reporting is required for these sources (**ID Nos. 201-PL-I and 202-PL-I**).

3. 15A NCAC 2D .0614: COMPLIANCE ASSURANCE MONITORING

- a. Per 40 CFR 64 and 15A NCAC 2D .0614, the Permittee shall comply with the following.
- b. Background
 - i. Emission unit.
 - (A) Description. Sixty-two aluminum ore reduction cells in Building 201 (**ID No. 201-PL-I**), and Sixty-two aluminum ore reduction cells in Building 202 (**ID No. 202-PL-I**).
 - ii. Applicable Regulation, Emission Limit, and Monitoring Requirements.
 - (A) Regulations. 15A NCAC 2D .0515 and 15A NCAC 2D .0529.
 - (B) Emission Limit
 - $E = 4.10 \times P^{0.67}$ Where E = allowable emission rate in pounds per hour and P = process weight in tons per hour.
 - (C) Control Technology. Eight parallel alumina fluid bed scrubbers (**ID No. 160-AR-PLI**) each in series with eight fabric filters (**ID No. 160-FF-PLI**).
 - c. Monitoring Approach. The key elements of the monitoring approach for particulate matter, including parameter to be monitored, parameter ranges and performance criteria are presented in the following table.

| | Indicator |
|----------------------|--|
| I. Indicator | Visible emissions |
| Measurement Approach | Visible emissions from the fabric filter will be monitored daily using EPA Reference Method 22-like procedures. |
| II. Indicator Range | An excursion is defined as the presence of visible emissions above normal. Excursions trigger an inspection, corrective action, and a reporting requirement. |
| QIP Threshold | The QIP threshold is five excursions in a 6-month reporting period. |

| | Indicator |
|---------------------------------------|--|
| III. Performance Criteria | |
| A. Date Representativeness | Measurements are being made at the emission point (fabric filter outlet). |
| B. Verification of Operational Status | NA |
| C. QA/QC Practices | The observer will be familiar with Reference Method 22 and follow Method 22-like procedures. |
| D. Monitoring Frequency | Observations are done daily. |
| Data Collection Procedures | VE observations are documented by the observer. |
| Averaging Periods | NA |

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

- d. The Permittee is not required to comply with this permit condition until such time as the sources are restarted. Within 10 days of restart of the applicable equipment, the Permittee shall notify the Regional Supervisor, Mooresville Regional Office of this fact.
- 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.

- G. Spent anode cleaning and handling (ID No. 204M-001) with associated fabric filter (ID No. 204M-BH-1)**
Butt crusher and hammermill (ID No. 232-ABC-1) with associated fabric filter (ID No. 232-DC-7)
Rod brushing (ID No. 232-ARBP-1) with associated fabric filter (ID No. 232-DC-5)
Butt blasting (ID No. 232-ABBP-1) with associated fabric filter (ID No. 232-DC-6)

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 | (For process rates up to 30 tons per hour) $E = 4.10 \times P^{0.67}$ (For process rates greater than 30 tons per hour) $E = 55.0 \times P^{0.11} - 40$ Where E =allowable emission rate in pounds per hour P =process weight in tons per hour | 15A NCAC 2D .0515 |
| Visible emissions | (ID Nos. 204M-001, 232-ABC-1, and 232-ARBP-1 only) 20 percent opacity (ID No. 232-ABBP-1 only) 40 percent opacity | 15A NCAC 2D .0521 |
| Toxic air pollutants | (ID Nos. 232-ABC-1 and 232-ABBP-1 only) State-enforceable only See Section 2.2 E.1 | 15A NCAC 2D .1100 |

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from **these sources (ID Nos. 204M-001, 232-ABC-1, 232-ARBP-1, and 232-ABBP-1)** shall not exceed an allowable emission rate as calculated by the following formulas:

(For process rates up to 30 tons per hour)

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

(For process rates greater than 30 tons per hour)

$$E = 55.0 \times P^{0.11} - 40$$

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. If the results of this test are above the limit given in Section 2.1 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 **these sources (ID Nos. 204M-001, 232-ABC-1, 232-ARBP-1, and 232-ABBP-1)** shall be controlled by **four fabric filters (ID Nos. 204M-BH-1, 232-DC-7, 232-DC-5, and 232-DC-6)** as described above. 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 are no manufacturer's inspection and maintenance recommendations, as a minimum, the** inspection and maintenance requirement shall include **the following**:
- i. a monthly visual inspection of the system ductwork and fabric filter units for leaks; and
 - ii. an annual (for each 12-month period following the initial inspection) internal inspection of each control device for structural integrity and filter condition.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the ductwork and fabric filters are not inspected and maintained.
- d. The results of 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 for each control device:
- i. the date and time of each recorded action;
 - ii. the results of each inspection;
 - iii. the results of any maintenance performed on **any control device; 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 these **fabric filters (ID Nos. 204M-BH-1, 232-DC-7, 232-DC-5, and 232-DC-6)** 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 (ID Nos. 204M-001, 232-ABC-1, and 232-ARBP-1)** shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.
- b. Visible emissions from **this source (ID No. 232-ABBP-1)** 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 limits given in Section 2.1 G.2.a and b above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

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

- d. To assure compliance, once a week the Permittee shall observe the emission points of **these sources (ID Nos. 204M-001, 232-ABC-1, 232-ARBP-1, and 232-ABBP-1)** for any visible emissions above normal. **The weekly observation must be made for each week of the calendar year period to ensure compliance with this requirement.** If visible emissions from these sources are observed to be above normal, the Permittee shall either:
 - i. **take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or**
 - ii. **demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1 G.2.a and 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.

- 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.

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

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

H. Airslide (ID No. ASC-5), and Alumina tank (ID No. 204-T5), with associated fabric filter (ID No. DC-204H-2)

Ball mill, screw conveyor, two bucket elevators, vibratory feeder, screens, two screw conveyors (ID No. 204H-BM-1) with associated fabric filter (ID No. DC-204H-1)

Two ball mill fines tanks (ID Nos. 204-T2 and 204-T6) with associated fabric filter (ID No. DC-204H-3)

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 | (For process rates up to 30 tons per hour) $E = 4.10 \times P^{0.67}$ (For process rates greater than 30 tons per hour) $E = 55.0 \times P^{0.11} - 40$ Where E = allowable emission rate in pounds per hour P = process weight in tons per hour | 15A NCAC 2D .0515 |

| Regulated Pollutant | Limits/Standards | Applicable Regulation |
|----------------------|--|-----------------------|
| Visible emissions | <p>(ID Nos. ASC-5, 204-T5, 204-T2, and 204-T6 only) 20 percent opacity</p> <p>(ID No. 204H-BM-1 only) 40 percent opacity</p> | 15A NCAC 2D .0521 |
| Toxic air pollutants | <p>(ID Nos. 204H-BM-1, 204-T2, and 204-T6 only) State-enforceable only See Section 2.2 E.1</p> | 15A NCAC 2D .1100 |

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from **these sources (ID Nos. ASC-5, 204-T5, 204-T2, 204-T6, 204H-BM-1)** shall not exceed an allowable emission rate as calculated by the following formulas:

(For process rates up to 30 tons per hour)

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

(For process rates greater than 30 tons per hour)

$$E = 55.0 \times P^{0.11} - 40$$

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. If the results of this test are above the limit given in Section 2.1 H.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 **these sources (ID Nos. ASC-5, 204-T5, 204-T2, 204-T6, 204H-BM-1)** shall be controlled by **three fabric filters (ID Nos. DC-204H-2, DC-204H-1, and DC-204H-3) as described above**. 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 are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:**
- i. a monthly visual inspection of the system ductwork and fabric filter units for leaks; and
 - ii. an annual (for each 12-month period following the initial inspection) internal inspection of each control device for structural integrity and filter condition.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the ductwork and fabric filters are not inspected and maintained.
- d. The results of 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 for each control device:
- i. the date and time of each recorded action;
 - ii. the results of each inspection;
 - iii. the results of any maintenance performed on **any control device; 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 these **fabric filters (ID Nos. DC-204H-2, DC-204H-1, and DC-204H-3)** 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 (ID Nos. ASC-5, 204-T5, 204-T2, and 204-T6)** 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 **this source (ID No. 204H-BM-1)** 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 limits given in Section 2.1 H.2.a and b above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

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

- d. To assure compliance, once a week the Permittee shall observe the emission points of **these sources (ID Nos. ASC-5, 204-T5, and 204H-BM-1)** for any visible emissions above normal. **The weekly observation must be made for each week of the calendar year period to ensure compliance with this requirement.** If visible emissions from these sources are observed to be above normal, the Permittee shall either:
 - i. **take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or**
 - ii. **demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1 H.2.a and 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.
- e. To assure compliance, once a month the Permittee shall observe the emission points of **these sources (ID Nos. 204-T2 and 204-T6)** for any visible emissions above normal. **The monthly observation must be made for each week of the calendar year period to ensure compliance with this requirement.** If visible emissions from these sources are observed to be above normal, the Permittee shall either:
 - i. **take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or**
 - ii. **demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1 H.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.

- f. 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.

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

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

**I. Four natural gas-fired melting/holding furnaces (ID Nos. 134-10 through 134-13)
Eight natural gas-fired process heaters (ID Nos. 134-10-PF1 through 134-13-PF1 and 134-10-PF2 through 134-13-PF2)**

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 | (ID Nos. 134-10-PF1 through 134-13-PF1 and 134-10-PF2 through 134-13-PF2 only) (For process rates up to 30 tons per hour) $E = 4.10 \times P^{0.67}$ (For process rates greater than 30 tons per hour) $E = 55.0 \times P^{0.11} - 40$ Where E = allowable emission rate in pounds per hour P = process weight in tons per hour | 15A NCAC 2D .0515 |
| Sulfur dioxide | 2.3 pounds per million Btu heat input | 15A NCAC 2D .0516 |
| Visible emissions | (ID Nos. 134-12, 134-13, 134-12-PF1, 134-13-PF1, 134-12-PF2, and 134-13-PF2 only) 20 percent opacity (ID Nos. 134-10, 134-11, 134-10-PF1, 134-11-PF1, 134-10-PF2, and 134-11-PF2 only) 40 percent opacity | 15A NCAC 2D .0521 |
| PM, HCl (clean charge only) | (ID Nos. 134-10 through 134-13 only) National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production See Section 2.2 D | 15A NCAC 2D .1111 (40 CFR 63, Subpart RRR) |
| Toxic air pollutants | (ID Nos. 134-10 through 134-13 only) State-enforceable only See Section 2.2 E.1 | 15A NCAC 2D .1100 |

1. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from **these sources (ID Nos. 134-10-PF1 through 134-13-PF1 and 134-10-PF2 through 134-13-PF2)** shall not exceed an allowable emission rate as calculated by the following formulas:

(For process rates up to 30 tons per hour)

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

(For process rates greater than 30 tons per hour)

$$E = 55.0 \times P^{0.11} - 40$$

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. If the results of this test are above the limit given in Section 2.1 I.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

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

- c. The Permittee shall maintain **production records such that the process rates “P” in tons per hour, as specified by the formulas contained above can be derived**, 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 or the types of materials and finishes are not monitored.
- d. **No reporting is required for particulate emissions from these sources (ID Nos. 134-10-PF1 through 134-13-PF1 and 134-10-PF2 through 134-13-PF2).**

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

- a. Emissions of sulfur dioxide from these sources **(ID Nos. 134-10 through 134-13, 134-10-PF1 through 134-13-PF1, and 134-10-PF2 through 134-13-PF2)** 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. If the results of this test are above the limit given in Section 2.1 I.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0516.

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

- c. No monitoring/recordkeeping/reporting is required for sulfur dioxide from the firing of natural gas in these sources **(ID Nos. 134-10 through 134-13, 134-10-PF1 through 134-13-PF1, and 134-10-PF2 through 134-13-PF2).**

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

- a. Visible emissions from these sources **(ID Nos. 134-12, 134-13, 134-12-PF1, 134-13-PF1, 134-12-PF2, and 134-13-PF2)** 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 these sources **(ID Nos. 134-10, 134-11, 134-10-PF1, 134-11-PF1, 134-10-PF2, and 134-11-PF2)** 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]

- 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 I.3.a and b above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0521.

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

- d. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas in these sources **(ID Nos. 134-10 through 134-13, 134-10-PF1 through 134-13-PF1, and 134-10-PF2 through 134-13-PF2)**.

- J. Shot blast cleaning machine (ID No. 206P-SB-1) with associated fabric filter (ID No. SBDC-1)
Graphite machining (ID No. 044-GMP-1) with associated fabric filter (ID No. 044-DC-3)
Woodworking (ID No. 053-WP-1) with associated duct collection system (ID No. DWC-1)**

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 | (ID No. 053-WP-1 only) Adequate ductwork and properly designed collectors | 15A NCAC 2D .0512 |
| Particulate matter | (ID Nos. 260P-SB-1 and 044-GMP-1 only) (For process rates up to 30 tons per hour) $E = 4.10 \times P^{0.67}$ (For process rates greater than 30 tons per hour) $E = 55.0 \times P^{0.11} - 40$ Where E =allowable emission rate in pounds per hour P =process weight in tons per hour | 15A NCAC 2D .0515 |
| Visible emissions | 20 percent opacity | 15A NCAC 2D .0521 |
| Toxic air pollutants | (ID Nos. 260P-SB-1 and 044-GMP-1 only) State-enforceable only See Section 2.2 E.1 | 15A NCAC 2D .1100 |

1. 15A NCAC 2D .0512: PARTICULATES FROM MISCELLANEOUS WOOD PRODUCTS FINISHING PLANTS

- a. The Permittee shall not cause, allow, or permit particulate matter caused by the working, sanding, or finishing of wood to be discharged from any stack, vent, or building into the atmosphere without providing, as a minimum for its collection, adequate ductwork and properly designed collectors. In no case shall the ambient air quality standards be exceeded beyond the property line.

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

- b. Particulate matter from this source (**ID No. 053-WP-1**) shall be controlled by a wood waste collection system and settling chamber (**ID No. DWC-1**). To assure compliance, the Permittee shall perform inspection 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 and settling chamber noting the structural integrity, **and**
- ii. **annual (for each 12 month period following the initial inspection) internal inspection of the settling chamber noting the structural integrity.**

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0512 if the ductwork and settling chamber are not inspected and maintained.

- c. The results of the 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 inspection; and
 - iii. the results of maintenance performed on any control device.

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0512 if these records are not maintained.

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

- d. The Permittee shall submit the results of any maintenance performed on the collection system (**ID No. DWC-1**) within 30 days of a written request by the DAQ.
- 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. 15A NCAC 2D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

- a. Emissions of particulate matter from **these sources (ID Nos. 260P-SB-1 and 044-GMP-1)** shall not exceed an allowable emission rate as calculated by the following formulas:

(For process rates up to 30 tons per hour)

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

(For process rates greater than 30 tons per hour)

$$E = 55.0 \times P^{0.11} - 40$$

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. If the results of this test are above the limit given in Section 2.1 J.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515.

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

- c. Particulate matter from these sources (**ID Nos. 206P-SB-1 and 044-GMP-1**) shall be controlled by **two fabric filters (ID Nos. SBDC-1 and 044-DC-3)** as described above. 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 are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:**
- i. a monthly visual inspection of the system ductwork and fabric filter units for leaks; and
 - ii. an annual (for each 12-month period following the initial inspection) internal inspection of each control device for structural integrity and filter condition.
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0515 if the ductwork and fabric filters are not inspected and maintained.
- d. The results of 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 for each control device:
- i. the date and time of each recorded action;
 - ii. the results of each inspection;
 - iii. the results of any maintenance performed on **any control device; 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 these **fabric filters (ID Nos. SBDC-1 and 044-DC-3)** 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.

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

- a. Visible emissions from these sources (**ID Nos. 206P-SB-1, 044-GMP-1, and 053-WP-1**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 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 J.3.a above, 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 week the Permittee shall observe the emission points of **these sources (ID Nos. 206P-SB-1, 044-GMP-1, and 053-WP-1)** for any visible emissions above normal. **The weekly observation must be made for each week of the calendar year period to ensure compliance with this requirement.** If visible emissions from these sources are observed to be above normal, the Permittee shall either:
- i. **take appropriate action to correct the above-normal emissions as soon as practicable and within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or**

- ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 2D .2601 (Method 9) for 12 minutes is below the limit given in Section 2.1 J.3.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. 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.

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

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

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

- A. **Paste mixer No. 1 (ID No. 050-M59),
Paste mixer No. 2 (ID No. 050-M60),
Four mixer conveyor belts (ID Nos. 050-M69, 050-M90, 050-M91, and 050-M92), and
Anode press/vacuum pump (ID No. 050-5503VPS),
with associated coke injected venturi scrubber and fabric filter (ID No. 050-DCS-1)**

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

| Regulated Pollutant | Limits/Standards | Applicable Regulation |
|---------------------------------|---|-----------------------|
| Polycyclic organic matter (POM) | The Permittee shall install, operate, and maintain equipment to capture and control POM emissions from each paste production plant. | 40 CFR 63.843(b) |

1. 15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR 63, Subpart LL including applicable provisions of Subpart A "General Provisions."
- b. The emission capture system shall be installed and operated to meet the generally accepted engineering standards for minimum exhaust rates as published by the American Conference of Governmental Industrial Hygienists in Chapters 3 and 5 of "Industrial Ventilation: A Handbook of Recommended Practice" 22nd Edition.
- c. Captured emissions shall be routed through a closed system to a dry coke scrubber (ID No 050-DCS-1).

Monitoring [40 CFR 63.848]

- d. Coke feed to the dry scrubber shall be continuously monitored (minimum of 0.8 revolutions per minute; block hourly average of rotary vane feeder revolutions per minute). [Parametric Monitoring Plan-Version 3, August 26, 2000]
- e. Air flow to the dry scrubber shall be continuously monitored (minimum of 115 amps; block hourly average of fan amps). [Parametric Monitoring Plan-Version 3, August 26, 2000]
- f. The Permittee shall inspect each control device at least once each operating day to ensure the control device is operating properly and record the results of each inspection.
- g. The Permittee shall visually inspect the exhaust stack of the control device on a daily basis for evidence of any visible emissions indicating abnormal operation.
- h. If a monitoring device for a primary control device measures an operating parameter outside the limits established above, if visible emissions indicating abnormal operation are observed from the exhaust stack of a control device during a daily inspection, the Permittee shall initiate the corrective action procedures identified in the startup, shutdown, and malfunction plan within one hour. Failure to initiate the corrective action procedures within one hour or to take the necessary corrective actions to remedy the problem is a violation.
- i. If the limit for a given operating parameter associated with monitoring a specific control device is exceeded six times in any semiannual reporting period, then any subsequent exceedance in that reporting period is a violation. For the purpose of determining the number of exceedances, no more than one exceedance shall be attributed in any given 24-hour period.
- j. All monitoring devices must be certified by the Permittee to meet recommended accuracy requirements and must be calibrated in accordance with the manufacturer's instructions.

Recordkeeping/Reporting

- k. The Permittee shall maintain the following records for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility with the exception of the startup, shut down, and malfunction plan, and the capture system design information which must be retained on site for the life of the facility. The remaining 3 years of records may be retained offsite. Records shall be made available to representatives of the Division of Air Quality on request:

Per [40 CFR 63.850]

- i. a copy of the startup, shutdown, and malfunction plan developed in accordance with 40 CFR 63.6(e)(3) for the green paste production process, the emissions capture system, and the dry coke scrubber/fabric filter control system,
- ii. records of design information for the paste production plant capture systems,
- iii. records, such as a checklist or the equivalent, demonstrating that the daily visual inspection of the exhaust stack for the control device has been performed, including the results of each inspection,
- iv. records documenting the corrective actions taken when a limit for an operating parameter established per the accepted parametric monitoring plan was exceeded and when visible emissions indicating abnormal operation were observed from the control device stack during a daily inspection,

Per [40 CFR 63.10(b)]

- v. the occurrence and duration of each startup, shutdown, or malfunction of operation of process equipment,
- vi. the occurrence and duration of each malfunction of the air pollution control equipment,
- vii. all maintenance performed on the air pollution control equipment,
- viii. actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan,

- ix. all information necessary to demonstrate conformance with the startup, shutdown, and malfunction plan when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be recorded using a "checklist," or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events),
- x. each period during which a continuous monitoring system is malfunctioning or inoperative,
- xi. all required measurements needed to demonstrate compliance with a relevant standard,
- xii. all continuous monitoring system calibration checks,
- xiii. all adjustments and maintenance performed on continuous monitoring systems,

Per [40 CFR 63.10(c)]

- xiv. all required continuous monitoring system measurements (including monitoring data recorded during unavoidable continuous monitoring system breakdowns),
- xv. the date and time identifying each period during which the continuous monitoring system was inoperative,
- xvi. the specific identification (i.e., the date and time of commencement and completion) of each period of exceedance of a monitored parameter that occurs during startups, shutdowns, and malfunctions;
- xvii. the specific identification (i.e., the date and time of commencement and completion) of each time period of exceedance of a monitored parameter that occurs during periods other than startups, shutdowns, and malfunctions;
- xviii. the nature and cause of any malfunction (if known),
- xix. the corrective action taken or preventive measures adopted,
- xx. the nature of the repairs or adjustments to the continuous monitoring system that was inoperative, and
- xxi. the total process operating time during the reporting period.

In order to satisfy the requirements of xviii., xix., or xx. above and to avoid duplicative recordkeeping efforts, the Permittee may use the affected source's startup, shutdown, and malfunction plan or records kept to satisfy the recordkeeping requirements of the startup, shutdown, and malfunction plan, provided that such plan and records adequately address the requirements of xviii., xix., and xx.

Per [40 CFR 63.10(d)]

- I. Periodic startup, shutdown, and malfunction reports - If actions taken by the Permittee during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan, the Permittee shall state such information in a startup, shutdown, and malfunction report. Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the Permittee or other responsible official who is certifying its accuracy, that shall be submitted to the Regional Supervisor, Division of Air Quality semiannually. The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate).

- m. Immediate startup, shutdown, and malfunction reports - Any time an action taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the Permittee shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. The immediate report shall consist of a telephone call (or facsimile (FAX) transmission) to the Regional Supervisor, Division of Air Quality within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the Permittee or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and whether any exceedances of a monitored are believed to have occurred.
- n. A summary report entitled "Summary Report - Exceedances of Monitored Parameters and Continuous Monitoring Systems Operation" and shall contain the following information:
- i. the company name and address of the affected source,
 - ii. an identification of each parameter monitored,
 - iii. the beginning and ending dates of the reporting period,
 - iv. a brief description of the process units,
 - v. the operating parameter limitations specified in the permit,
 - vi. the monitoring equipment manufacturer and model number,
 - vii. the total operating time of the paste production plant during the reporting period,
 - viii. an operating parameter data summary, including:
 - (A) the total duration of parametric exceedances during the reporting period (recorded in hours),
 - (B) the total duration of parametric exceedances expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total duration of parametric during the reporting period into those that are due to startup/shutdown, control equipment problems, process problems, other known causes, and other unknown causes,
 - ix. a parametric monitoring system operating summary, including the total continuous monitoring system downtime during the reporting period (recorded in hours), the total duration of continuous monitoring system downtime expressed as a percent of the total paste plant operating time during that reporting period, and a breakdown of the total continuous monitoring system downtime during the reporting period into periods that are due to monitoring equipment malfunctions, non-monitoring equipment malfunctions, other known causes, and other unknown causes,
 - x. a description of any changes in continuous monitoring system, processes, or controls since the last reporting period,
 - xi. the name, title, and signature of the responsible official who is certifying the accuracy of the report; and
 - xii. the date of the report.
- o. A report on exceedances of monitored parameters and continuous monitoring systems operation, per n. and o. above, is required if the total duration of control system parameter exceedances for the reporting period is one percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is five percent or greater of the total operating time for the reporting period. Only the summary report is required otherwise.
- p. Unless stated otherwise in this permit, reports are required semi annually **postmarked on or before** July 30 and January 30 unless quarterly reports are required as a result of excess emissions. Any required additional quarterly reports will be due **postmarked on or before** April 30 and October 30 in addition to the semi-annual submittals.

B. Two natural gas-fired anode/cathode bake furnaces Nos. 1 and 2 (ID Nos. 261-ABF-1 and 261-ABF-2) with associated direct contact condenser (ID No. 261-DCC) installed in series with one (alumina injected venturi scrubber (ID No. 261-CD-AVR) installed in series with one fabric filter (ID No. 261-CD-AVR-DC)

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 (TF) | Emissions of TF shall not exceed 0.10 kg/Mg (0.20 lb/ton) of green anode | 40 CFR 63.843(c)(1) |
| Polycyclic organic matter (POM) | Emissions of POM shall not exceed 0.09 kg/Mg (0.18 lb/ton) of green anode. | 40 CFR 63.843(c)(2) |

1. 15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR 63, Subpart LL including applicable provisions of Subpart A "General Provisions."

Testing [40 CFR 63.847(d)(4)]

- b. The Permittee shall measure and record the emission rate of TF and POM exiting the exhaust stack of the primary emission control system for the anode bake furnace. Using the equations below, the Permittee shall compute and record the average of at least three runs each year to determine compliance with the applicable emission limits for TF and POM. Compliance is demonstrated when the emission rates of TF and POM are equal to or less than the applicable TF and POM emission limits in the table above.
- i. Compute the emission rate (Eb) of TF from the anode bake furnace using the following equation:
- $$E_b = (C_s \times Q_{sd}) / (P_b / K)$$
- Where: Eb = emission rate of TF, kg/mg (lb/ton) of green anodes produced;
Cs = concentration of TF, mg/dscm (mg/dscf);
Qsd = volumetric flow rate of effluent gas, dscm/hr (dscf/hr);
Pb = quantity of green anode material placed in the furnace, mg/hr (ton/hr); and
K = conversion factor, 10⁶ mg/kg (453,600 mg/lb).
- ii. Compute the emission rate of POM from the anode bake furnace using the following equation:
- $$E_b = (C_s \times Q_{sd}) / (P_b / K)$$
- Where: Cs = concentration of POM, mg/dscm (mg/dscf).
- iii. Determine the rate of green anode material introduced into the furnace by dividing the number of operating hours in the calendar month into the weight of green anode material used during the calendar month in which the performance test was conducted.
- c. Performance tests shall be conducted in accordance with the requirements of the general provisions in subpart A of 40 CFR 63, the test methods and procedures of 40 CFR 63.849, and the approved test plan. **Performance tests shall be conducted within 180 days of restart of these sources (ID Nos. 261-ABF-1 and 261-ABF-2), and annually thereafter in the same quarter as the restart test. Test reports are due within 60 days of the test date.**

Monitoring [40 CFR 63.848]

- d. The Permittee shall monitor TF and POM emissions from the anode bake furnace on an annual basis using the procedures in Sections b. and c. above. The Permittee shall compute and record the annual average of TF and POM emissions from at least three runs to determine compliance with the applicable emission limits. The Permittee must include all valid runs in the annual average.
- e. Alumina feed to the dry scrubber shall be continuously monitored (minimum of 1.38 revolutions per minute; 24-hour average of rotary vane feeder revolutions per minute). [Parametric Monitoring Plan-Version 3, August 26, 2000]
- f. Air flow to the dry scrubber shall be continuously monitored (maximum of 505 amps; block 2-hour averages of total fan amps). [Parametric Monitoring Plan-Version 3, August 26, 2000]
- g. The Permittee shall inspect each control device at least once each operating day to ensure the control device is operating properly and record the results of each inspection.
- h. The Permittee shall visually inspect the exhaust stack of the control device on a daily basis for evidence of any visible emissions indicating abnormal operation.
- i. If a monitoring device for a primary control device measures an operating parameter outside the limits established above, if visible emissions indicating abnormal operation are observed from the exhaust stack of a control device during a daily inspection, the Permittee shall initiate the corrective action procedures identified in the startup, shutdown, and malfunction plan within one hour. Failure to initiate the corrective action procedures within one hour or to take the necessary corrective actions to remedy the problem is a violation.
- j. If the limit for a given operating parameter associated with monitoring a specific control device is exceeded six times in any semiannual reporting period, then any subsequent exceedance in that reporting period is a violation. For the purpose of determining the number of exceedances, no more than one exceedance shall be attributed in any given 24-hour period.
- k. All monitoring devices must be certified by the Permittee to meet recommended accuracy requirements and must be calibrated in accordance with the manufacturer's instructions.
- l. The Permittee of an anode bake furnace shall install, operate, and maintain a monitoring device to determine the daily weight of green anode material placed in the anode bake furnace. The weight of green anode material may be determined by monitoring the weight of all anodes or by monitoring the number of anodes placed in the furnace and determining an average weight from measurements of a representative sample of anodes.

Recordkeeping/Reporting

- m. The Permittee shall maintain the following records for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility with the exception of the startup, shut down, and malfunction plan which must be retained on site for the life of the facility. The remaining 3 years of records may be retained offsite. Records shall be made available to representatives of the Division of Air Quality on request:

Per [40 CFR 63.850]

- i. daily production rate of green anode material placed in the anode bake furnace,
- ii. a copy of the startup, shutdown, and malfunction plan developed in accordance with 40 CFR 63.6(e)(3) for the anode bake furnace process and the dry alumina scrubber/fabric filter control system,
- iii. records, such as a checklist or the equivalent, demonstrating that the daily visual inspection of the exhaust stack for the control device has been performed, including the results of each inspection,
- iv. records documenting the corrective actions taken when a limit for an operating parameter established per the accepted parametric monitoring plan was exceeded and when visible emissions indicating abnormal operation were observed from the control device stack during a daily inspection,

Per [40 CFR 63.10(b)]

- v. the occurrence and duration of each startup, shutdown, or malfunction of operation of process equipment,
- vi. the occurrence and duration of each malfunction of the air pollution control equipment,
- vii. all maintenance performed on the air pollution control equipment,
- viii. actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan,
- ix. all information necessary to demonstrate conformance with the startup, shutdown, and malfunction plan when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be recorded using a "checklist," or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events),
- x. each period during which a continuous monitoring system is malfunctioning or inoperative,
- xi. all required measurements needed to demonstrate compliance with a relevant standard,
- xii. all continuous monitoring system calibration checks,
- xiii. all adjustments and maintenance performed on continuous monitoring systems,

Per [40 CFR 63.10(c)]

- xiv. all required continuous monitoring system measurements (including monitoring data recorded during unavoidable continuous monitoring system breakdowns),
- xv. the date and time identifying each period during which the continuous monitoring system was inoperative,
- xvi. the specific identification (i.e., the date and time of commencement and completion) of each period of exceedance of a monitored parameter that occurs during startups, shutdowns, and malfunctions;
- xvii. the specific identification (i.e., the date and time of commencement and completion) of each time period of exceedance of a monitored parameter that occurs during periods other than startups, shutdowns, and malfunctions;
- xviii. the nature and cause of any malfunction (if known),
- xix. the corrective action taken or preventive measures adopted,
- xx. the nature of the repairs or adjustments to the continuous monitoring system that was inoperative, and
- xxi. the total process operating time during the reporting period.

In order to satisfy the requirements of xviii., xix., or xx. above and to avoid duplicative recordkeeping efforts, the Permittee may use the affected source's startup, shutdown, and malfunction plan or records kept to satisfy the recordkeeping requirements of the startup, shutdown, and malfunction plan, provided that such plan and records adequately address the requirements of xviii., xix., and xx.

Per [40 CFR 63.10(d)]

- n. Periodic startup, shutdown, and malfunction reports - If actions taken by the Permittee during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan, the Permittee shall state such information in a startup, shutdown, and malfunction report. Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the Permittee or other responsible official who is certifying its accuracy, that shall be submitted to the Regional Supervisor, Division of Air Quality semiannually. The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate).

- o. Immediate startup, shutdown, and malfunction reports - Any time an action taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the Permittee shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. The immediate report shall consist of a telephone call (or facsimile (FAX) transmission) to the Regional Supervisor, Division of Air Quality within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the Permittee or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and whether any exceedances of a monitored are believed to have occurred.
- p. In addition, a summary report entitled "Summary Report - Exceedances of Monitored Parameters and Continuous Monitoring Systems Operation" and shall contain the following information:
 - i. the company name and address of the affected source,
 - ii. an identification of each parameter monitored,
 - iii. the beginning and ending dates of the reporting period,
 - iv. a brief description of the process units,
 - v. the operating parameter limitations specified in the permit,
 - vi. the monitoring equipment manufacturer and model number,
 - vii. the total operating time of each anode bake furnace during the reporting period,
 - viii. an operating parameter data summary, including:
 - (A) the total duration of parametric exceedances during the reporting period (recorded hours for gases),
 - (B) the total duration of parametric exceedances expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total duration of parametric during the reporting period into those that are due to startup/shutdown, control equipment problems, process problems, other known causes, and other unknown causes,
 - ix. a parametric monitoring system operating summary, including the total continuous monitoring system downtime during the reporting period (recorded in hours), the total duration of continuous monitoring system downtime expressed as a percent of the total operating time for both anode bake furnaces during that reporting period, and a breakdown of the total continuous monitoring system downtime during the reporting period into periods that are due to monitoring equipment malfunctions, non-monitoring equipment malfunctions, other known causes, and other unknown causes,
 - x. a description of any changes in continuous monitoring system, processes, or controls since the last reporting period,
 - xi. the name, title, and signature of the responsible official who is certifying the accuracy of the report;
 - xii. the date of the report, and
 - xiii. the latest determination of annual average TF and POM emissions.
- q. A report on exceedances of monitored parameters and continuous monitoring systems operation, per p. above, is required if the total duration of control system parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period. Only the summary report is required otherwise.
- r. Unless stated otherwise in this permit, reports are required semi annually **postmarked on or before** July 30 and January 30 unless quarterly reports are required as a result of excess emissions. Any required additional quarterly reports will be due **postmarked on or before** April 30 and October 30 in addition to the semi-annual submittals.

C. Sixty-two aluminum ore reduction cells in Building 201 (ID No. 201-PL-I), and Sixty-two aluminum ore reduction cells in Building 202 (ID No. 202-PL-I), with eight parallel alumina fluid bed scrubbers (ID No. 160-AR-PLI) each in series with eight fabric filters (ID No. 160-FF-PLI)

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 (TF) | Emissions of TF shall not exceed 0.95 kg/Mg (1.9 lb/ton) of aluminum produced for each potline. | 40 CFR 63.843(a)(1) |

1. 15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .1111 "Maximum Achievable Control Technology" as promulgated in 40 CFR 63, Subpart LL including applicable provisions of Subpart A "General Provisions." In addition to other reporting as required by 40 CFR 63, Subpart LL, the Permittee shall submit a summary to the Regional Supervisor DAQ for **Potline I** showing pounds of total fluoride emitted per ton of aluminum (lb TF/ton Al) produced by January 30 and July 30 of each calendar year for each month in the preceding six-month period. List test dates and test results for all applicable MACT compliance tests on reactors for the past 17 months, and the average reactor emission factor in lb TF/ton Al for each month of the six-month period. Include roof monitoring test results for each month.

Testing [40 CFR 63.847(d)(4)]

- b. For **Potline I**, the Permittee shall measure and record the emission rate of TF exiting the outlet of the primary control system and the rate of secondary emissions exiting through each roof monitor. Using the equation below, the Permittee shall compute and record the average of at least three runs each month for secondary emissions and at least three runs each year for the primary control system to determine compliance with the applicable emission limit. Compliance is demonstrated when the emission rate of TF is equal to or less than the applicable emission limit in the above table.
- i. Compute the emission rate (Ep) of TF from **Potline I** using the following equation:

$$E_p = [(C_{s_1} \times Q_{sd})_1 + (C_{s_2} \times Q_{sd})_2] / (P \times K)$$

Where: Ep = emission rate of TF from **Potline I**, kg/Mg (lb/ton);

Cs₁ = concentration of TF from the primary control system, mg/dscm (mg/dscf);

Qsd = volumetric flow rate of effluent gas corresponding to the appropriate subscript location, dscm/hr (dscf/hr);

Cs₂ = concentration of TF as measured for roof monitor emissions, mg/dscm (mg/dscf);

P = aluminum production rate, Mg/hr (ton/hr);

K = conversion factor, 10⁶ mg/kg (453,600 mg/lb);

1 = subscript for primary control system effluent gas; and

2 = subscript for secondary control system or roof monitor effluent gas.

- ii. Determine the aluminum production rate (P) by dividing the number of hours in the calendar month into the weight of aluminum tapped from **Potline I** during the calendar month that includes the three runs of a performance test.
- c. Performance tests shall be conducted in accordance with the requirements of the general provisions in subpart A of 40 CFR 63, the test methods and procedures of 40 CFR 63.849, and the approved test plan. Performance tests shall be conducted within 180 days of startup of **Potline I**, and annually thereafter in the same quarter as the startup test. Test reports are due within 60 days of the test date.

Monitoring [40 CFR 63.848]

- d. The Permittee shall monitor TF emissions from **Potline I** by conducting monthly performance tests using the procedures in paragraphs b. and c. above. The Permittee shall compute and record the monthly average from at least three runs for secondary emissions and the previous 12-month average of all runs for the primary control system to determine compliance with the applicable emission limit. The Permittee must include all valid runs in the monthly average. The duration of each run for secondary emissions must represent a complete operating cycle.
- e. Alumina feed to the dry scrubber (**ID No. 160-AR-PLI**) shall be continuously monitored (minimum of 1,228 minutes of cumulative blower feed time per 24-hour potroom cycle). [Parametric Monitoring Plan-Version 4, April 6, 2001]
- f. Air flow to the dry scrubber (**ID No. 160-AR-PLI**) and fabric filter (**ID No. 160-FF-PLI**) shall be continuously monitored (minimum of 1,245 amps; average baghouse fan-amps per 24-hour potroom cycle). [Parametric Monitoring Plan-Version 4, April 6, 2001]
- g. The Permittee shall inspect each control device at least once each operating day to ensure the control device is operating properly and record the results of each inspection.
- h. The Permittee shall visually inspect the exhaust stack of the control device on a daily basis for evidence of any visible emissions indicating abnormal operation.
- i. If a monitoring device for a primary control device measures an operating parameter outside the limits established above, if visible emissions indicating abnormal operation are observed from the exhaust stack of a control device during a daily inspection, the Permittee shall initiate the corrective action procedures identified in the startup, shutdown, and malfunction plan within one hour. Failure to initiate the corrective action procedures within one hour or to take the necessary corrective actions to remedy the problem is a violation.
- j. If the limit for a given operating parameter associated with monitoring a specific control device is exceeded six times in any semiannual reporting period, then any subsequent exceedance in that reporting period is a violation. For the purpose of determining the number of exceedances, no more than one exceedance shall be attributed in any given 24-hour period.
- k. All monitoring devices must be certified by the Permittee to meet recommended accuracy requirements and must be calibrated in accordance with the manufacturer's instructions.
- l. The Permittee shall install, operate, and maintain a monitoring device to determine the daily weight of aluminum produced.

Recordkeeping/Reporting

- m. The Permittee shall maintain the following records for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility with the exception of the startup, shut down, and malfunction plan which must be retained on site for the life of the facility. The remaining 3 years of records may be retained offsite. Records shall be made available to representatives of the Division of Air Quality on request:

Per [40 CFR 63.850]

- i. daily production rate of aluminum,
- ii. a copy of the startup, shutdown, and malfunction plan developed in accordance with 40 CFR 63.6(e)(3) for **Potline I** and dry alumina scrubber/fabric filter control system,
- iii. records, such as a checklist or the equivalent, demonstrating that the daily visual inspection of the exhaust stack for the control device has been performed, including the results of each inspection,
- iv. records documenting the corrective actions taken when a limit for an operating parameter established per the accepted parametric monitoring plan was exceeded and when visible emissions indicating abnormal operation were observed from the control device stack during a daily inspection,

Per [40 CFR 63.10(b)]

- v. the occurrence and duration of each startup, shutdown, or malfunction of operation of process equipment,

- vi. the occurrence and duration of each malfunction of the air pollution control equipment,
- vii. all maintenance performed on the air pollution control equipment,
- viii. actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan,
- ix. all information necessary to demonstrate conformance with the startup, shutdown, and malfunction plan when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be recorded using a "checklist," or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events),
- x. each period during which a continuous monitoring system is malfunctioning or inoperative,
- xi. all required measurements needed to demonstrate compliance with a relevant standard,
- xii. all continuous monitoring system calibration checks,
- xiii. all adjustments and maintenance performed on continuous monitoring systems,

Per [40 CFR 63.10(c)]

- xiv. all required continuous monitoring system measurements (including monitoring data recorded during unavoidable continuous monitoring system breakdowns),
- xv. the date and time identifying each period during which the continuous monitoring system was inoperative,
- xvi. the specific identification (i.e., the date and time of commencement and completion) of each period of exceedance of a monitored parameter that occurs during startups, shutdowns, and malfunctions;
- xvii. the specific identification (i.e., the date and time of commencement and completion) of each time period of exceedance of a monitored parameter that occurs during periods other than startups, shutdowns, and malfunctions;
- xviii. the nature and cause of any malfunction (if known),
- xix. the corrective action taken or preventive measures adopted,
- xx. the nature of the repairs or adjustments to the continuous monitoring system that was inoperative, and
- xxi. the total process operating time during the reporting period.

In order to satisfy the requirements of xviii., xix., or xx. above and to avoid duplicative recordkeeping efforts, the Permittee may use the affected source's startup, shutdown, and malfunction plan or records kept to satisfy the recordkeeping requirements of the startup, shutdown, and malfunction plan, provided that such plan and records adequately address the requirements of xviii., xix., and xx.

Per [40 CFR 63.10(d)]

- n. Periodic startup, shutdown, and malfunction reports - If actions taken by the Permittee during a startup, shutdown, or malfunction of an affected source (including actions taken to correct a malfunction) are consistent with the procedures specified in the source's startup, shutdown, and malfunction plan, the Permittee shall state such information in a startup, shutdown, and malfunction report. Reports shall only be required if a startup, shutdown, or malfunction occurred during the reporting period. The startup, shutdown, and malfunction report shall consist of a letter, containing the name, title, and signature of the Permittee or other responsible official who is certifying its accuracy, that shall be submitted to the Regional Supervisor, Division of Air Quality semiannually. The startup, shutdown, and malfunction report shall be delivered or postmarked by the 30th day following the end of each calendar half (or other calendar reporting period, as appropriate).

- o.** Immediate startup, shutdown, and malfunction reports - Any time an action taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the Permittee shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. The immediate report shall consist of a telephone call (or facsimile (FAX) transmission) to the Regional Supervisor, Division of Air Quality within 2 working days after commencing actions inconsistent with the plan, and it shall be followed by a letter, delivered or postmarked within 7 working days after the end of the event, that contains the name, title, and signature of the Permittee or other responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the startup, shutdown, and malfunction plan, and whether any exceedances of a monitored are believed to have occurred.
- p.** In addition, a summary report entitled "Summary Report - Exceedances of Monitored Parameters and Continuous Monitoring Systems Operation" and shall contain the following information:

 - i. the company name and address of the affected source,
 - ii. an identification of each parameter monitored,
 - iii. the beginning and ending dates of the reporting period,
 - iv. a brief description of the process units,
 - v. the operating parameter limitations specified in the permit,
 - vi. the monitoring equipment manufacturer and model number,
 - vii. the total operating time of each anode bake furnace during the reporting period,
 - viii. an operating parameter data summary, including:

 - (A) the total duration of parametric exceedances during the reporting period (recorded hours for gases),
 - (B) the total duration of parametric exceedances expressed as a percent of the total source operating time during that reporting period, and a breakdown of the total duration of parametric during the reporting period into those that are due to startup/shutdown, control equipment problems, process problems, other known causes, and other unknown causes,
 - ix. a parametric monitoring system operating summary, including the total continuous monitoring system downtime during the reporting period (recorded in hours), the total duration of continuous monitoring system downtime expressed as a percent of the total operating time for both anode bake furnaces during that reporting period, and a breakdown of the total continuous monitoring system downtime during the reporting period into periods that are due to monitoring equipment malfunctions, non-monitoring equipment malfunctions, other known causes, and other unknown causes,
 - x. a description of any changes in continuous monitoring system, processes, or controls since the last reporting period,
 - xi. the name, title, and signature of the responsible official who is certifying the accuracy of the report;
 - xii. the date of the report, and
 - xiii. the latest determination of annual average TF and POM emissions.
- q.** A report on exceedances of monitored parameters and continuous monitoring systems operation, per **p.** above, is required if the total duration of control system parameter exceedances for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period. Only the summary report is required otherwise.
- r.** Unless stated otherwise in this permit, reports are required semi annually **postmarked on or before** July 30 and January 30 unless quarterly reports are required as a result of excess emissions. Any required additional quarterly reports will be due **postmarked on or before** April 30 and October 30 in addition to the semi-annual submittals.

**D. Four natural gas-fired melting/holding furnaces (ID Nos. 134-10 through 134-13)
Eight natural gas-fired process heaters (ID Nos. 134-10-PF1 through 134-13-PF1 and 134-10-PF2 through 134-13-PF2)**

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

| Regulated Pollutant | Limits/Standards | Applicable Regulation |
|--------------------------------|--|---|
| PM, HCl (clean charge only) | National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production | 15A NCAC 2D .1111 (40 CFR 63, Subpart RRR) |

1. 15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY – The Permittee shall comply with all applicable provisions, including the notification, testing, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 2D .1111 “Maximum Achievable Control Technology” as promulgated in 40 CFR 62, Subpart RRR, including applicable provisions of Subpart A “General Provisions.”

[40 CFR 63.1505(i)] Emission Standards for Group 1 furnaces.

- a. The Permittee shall use the following limits to determine the emission standards for a "secondary aluminum processing unit" (SAPU):
 - i. No Group 1 furnace that is NOT processing only clean charge and shall emit more than;
 - (A) 0.20 kg of PM per Mg (0.40 lb of PM per ton) of feed/charge and
 - (B) 15 µg of dioxin/furan (D/F) toxic equivalents (TEQ) per Mg (2.1 10⁻⁴ gr of D/F TEQ per ton) of feed/charge;
 - ii. No Group 1 furnace that is processing only clean charge with reactive fluxing shall emit more than 0.20 kg of PM per Mg (0.40 lb of PM per ton) of feed/charge;
 - iii. No Group 1 furnace shall emit more than 0.20 kg of HCl per Mg (0.40 lb of HCl per ton) of feed/charge.

The Permittee may determine the emission standards for a SAPU by applying the group 1 furnace limits on the basis of the aluminum production weight in each group 1 furnace, rather than on the basis of feed/charge.

[40 CFR 63.1505(k)] Emission Standards for Secondary Aluminum Processing Units.

- b. The Permittee must comply with the emission limit in Section 2.2 D.1.a. above by using the equations for PM, HCl, and dioxins/furan below in Section 2.2 D.1.b.i., ii., and iii. for each secondary aluminum processing unit.
 - i. The Permittee must not discharge or allow to be discharged to the atmosphere any 3-day, 24-hour rolling average emissions of PM in excess of:

$$L_{CPM} = \frac{\sum_{i=1}^n (L_{tiPM} \times T_{ti})}{\sum_{i=1}^n (T_{ti})}$$

Where: L_{tiPM} = The PM emission limit for individual emission unit i in Sections 2.2 D.1.a.i.(A) and 2.2 D.1.a.ii. for a group 1 furnace;

T_{ti} = The feed/charge rate for individual emission unit i; and

L_{CPM} = The PM emission limit for the secondary aluminum processing unit.

- ii. The Permittee must not discharge or allow to be discharged to the atmosphere any 3-day, 24-hour rolling average emissions of HCl in excess of:

$$Lc_{HCl} = \frac{\sum_{i=1}^n (L_{tiHCl} \times T_{ti})}{\sum_{i=1}^n (T_{ti})}$$

Where: L_{tiHCl} = The HCl emission limit for individual emission unit i in Section 2.2 D.1.a.iii. for a group 1 furnace; and
 Lc_{HCl} = The HCl emission limit for the secondary aluminum processing unit.

- iii. The Permittee must not discharge or allow to be discharged to the atmosphere any 3-day, 24-hour rolling average emissions of D/F in excess of:

$$Lc_{D/F} = \frac{\sum_{i=1}^n (L_{tiD/F} \times T_{ti})}{\sum_{i=1}^n (T_{ti})}$$

Where: $L_{tiD/F}$ = The D/F emission limit for individual emission unit i in Section 2.2 D.1.a.i.(B) for a group 1 furnace; and
 $Lc_{D/F}$ = The D/F emission limit for the secondary aluminum processing unit.

(Note: Clean charge furnaces cannot be included in this calculation since they are not subject to the D/F limit.)

- c. The Permittee may demonstrate compliance for a SAPU with the emission limits of Sections 2.2 D.1.b. above by demonstrating that each emission unit within the SAPU is in compliance with the applicable emission limit of Section 2.2 D.1.a. above.
- [40 CFR 63.1506(b)] Operating Requirements-Labeling**
- d. The Permittee must provide and maintain easily visible labels posted at each group 1 furnace, group 2 furnace, and in-line fluxer that identifies the applicable emission limits and means of compliance, including:
- the type of emission unit (e.g., group 1 furnace, group 2 furnace, in-line fluxer);
 - the applicable operational standard(s) and control method(s) (work practice or control device). This includes, but is not limited to, the type of charge to be used for a furnace (e.g., clean scrap only, all scrap, etc.), flux materials and addition practices, and the applicable operating parameter ranges and requirements as incorporated in the OM&M plan.
- [40 CFR 63.1506(d)] Operating Requirements-Feed/Charge Weight.**
- e. The Permittee must install and operate a device that measures and records or otherwise determine the weight of feed/ charge (or production weight) for each operating cycle or time period used in the performance test; and operate each weight measurement system or other weight determination procedure in accordance with the OM&M plan. The Permittee may chose to measure and record aluminum production weight from an affected source or emission unit rather than feed/charge weight to an affected source or emission unit, provided that:
- the aluminum production weight, rather than feed/charge weight is measured and recorded for all emission units within a SAPU; and
 - all calculations to demonstrate compliance with the emission limits for SAPUs are based on aluminum production weight rather than feed/ charge weight.

[40 CFR 63.1506(n)] Operating Requirements-Group 1 Furnaces (with no air pollution control devices)

- f. The Permittee must maintain the total reactive chlorine flux injection rate for each operating cycle or time period used in the performance test at or below the average rates established during the performance test as set forth below:
 - i. Group 1 casting furnaces shall not inject more than 2.68 pounds of reactive flux per ton of aluminum produced.
 - ii. Group 1 process furnaces shall not inject more than 0.84 pounds of reactive flux per ton of aluminum produced.
- g. The Permittee must operate each furnace in accordance with the work practice/pollution prevention measures documented in the OM&M plan and within the parameter values or ranges established in the OM&M plan.
- h. The Permittee must operate group 1 melting/holding furnace subject to the emission standards in Section 2.2 D.1 a.ii. above of this permit using only clean charge as the feedstock.
[40 CFR 63.1506(o)] Operating Requirements-Group 2 Furnaces
- i. The Permittee must operate each group 2 furnace using only clean charge as the feedstock and operate each furnace using no reactive flux.
[40 CFR 63.1506(p)] Operating Requirements-Corrective Action
- j. When a process parameter deviates from the value or range established during the performance test and incorporated in the OM&M plan, the Permittee must initiate corrective action. Corrective action must restore operation of the emission unit (including the process) to its normal or usual mode of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. Corrective actions taken must include follow-up actions necessary to return the process or control device parameter level(s) to the value or range of values established during the performance test and steps to prevent the likely recurrence of the cause of a deviation.
[40 CFR 63.1510(b)] Monitoring Requirements-Operating, Maintenance, and Monitoring (OM&M) Plan
- k. Any changes to the plan must be submitted to the DAQ for review and approval. Pending approval by the DAQ of an amended plan, the Permittee must comply with the provisions of the submitted plan. Each plan must contain the following information:
 - i. process parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process and control device;
 - ii. a monitoring schedule for each affected source and emission unit;
 - iii. procedures for the proper operation and maintenance of each process unit;
 - iv. procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance including:
 - (A) calibration and certification of accuracy of each monitoring device, at least once every 6 months, according to the manufacturer's instructions, and
 - (B) procedures for the quality control and quality assurance of continuous emission or opacity monitoring systems as required by the general provisions in 40 CFR 63 subpart A;
 - v. procedures for monitoring process parameters, including the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used;
 - vi. corrective actions to be taken when process or operating parameters deviate from the value or range established in Section 2.2 D.1.g. including:
 - (A) procedures to determine and record the cause of an deviation or excursion, and the time the deviation or excursion began and ended, and
 - (B) procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed;
 - vii. a maintenance schedule for each process that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance;
 - viii. documentation of the work practice and pollution prevention measures used to achieve compliance with the applicable emission limits and a site-specific monitoring plan.

[40 CFR 63.1510(c)] Monitoring Requirements-Labeling

- l. The Permittee must inspect the labels for each group 1 furnace and group 2 furnace at least once per calendar month to confirm that posted labels are intact and legible.

[40 CFR 63.1510(e)] Monitoring Requirements-Aluminum Production Weight

- m. The Permittee must install, calibrate, operate, and maintain a device to measure and record the total weight of coil production and side tap molten metal from the emission unit over the same operating cycle or time period used in the performance test. Aluminum production within SAPUs must be measured and recorded on an emission unit-by-emission unit basis. As an alternative to a measurement device when less than a whole coil is produced, the Permittee may use the procedure contained in the currently approved Operation, Maintenance and Monitoring Plan.
- n. The accuracy of the weight measurement device or procedure must be 1 percent of the weight being measured.
- o. The Permittee must verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months.

[40 CFR 63.1510(j)] Monitoring Requirements-Total Reactive Flux Injection Rate

- p. For each group 1 furnace, the Permittee must:
 - i. install, calibrate, operate, and maintain a device to continuously measure and record the weight of gaseous or liquid reactive flux injected to each affected source or emission unit.
 - (A) The monitoring system must record the weight for each 15-minute block period, during which reactive fluxing occurs, over the same operating cycle or time period used in the performance test.
 - (B) The accuracy of the weight measurement device must be 1 percent of the weight of the reactive component of the flux being measured; however, the Permittee may use package weight for prepacked fluxes or a proration of amounts used thereof if bulk material is not used.
 - (C) The Permittee must verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months.
 - ii. calculate and record the gaseous or liquid reactive flux injection rate (kg/Mg or lb/ton) for each operating cycle or time period used in the performance test using the procedure in 40 CFR 63.1512(o).
 - iii. record, for each 15-minute block period during each operating cycle or time period used in the performance test during which reactive fluxing occurs, the time, weight, and type of flux for each addition of:
 - (A) gaseous or liquid reactive flux other than chlorine, and
 - (B) solid reactive flux;
 - iv. calculate and record the total reactive flux injection rate for each operating cycle or time period used in the performance test using the procedure in 63.1512(o).

[40 CFR 63.1510(r)] Monitoring Requirements-Group 2 furnaces

- q. The Permittee must record a description of the materials charged to each furnace, including any nonreactive, non-HAP containing/non-HAP-generating fluxing materials or agents and submit a certification of compliance that the furnaces were operated with only clean charge and no reactive fluxes, except for cover fluxes, were used for each 6-month reporting period.

[40 CFR 63.1510(s)] Monitoring Requirements-Site-specific requirements for SAPUs

- r. To revise the SAPU compliance provisions within the OM&M plan prior to the end of the permit term, the Permittee must submit a request to the applicable permitting authority containing the information required below and obtain approval of the DAQ prior to implementing any revisions.
 - i. The identification of each emission unit in the secondary aluminum processing unit;
 - ii. The specific control technology or pollution prevention measure to be used for each emission unit in the secondary aluminum processing unit and the date of its installation or application;

- iii. The emission limit calculated for each secondary aluminum processing unit and performance test results with supporting calculations demonstrating initial compliance with each applicable emission limit;
 - iv. Information and data demonstrating compliance for each emission unit with all applicable design, equipment, work practice or operational standards of this subpart; and
 - v. The monitoring requirements applicable to each emission unit in a secondary aluminum processing unit and the monitoring procedures for daily calculation of the 3-day, 24-hour rolling average using the procedure in Section 2.2 D.1.t below.
- s. The SAPU compliance procedures within the OM&M plan may not contain any of the following provisions:
- i. Any averaging among emissions of differing pollutants;
 - ii. The inclusion of any affected sources other than emission units in a secondary aluminum processing unit;
 - iii. The inclusion of any emission unit while it is shutdown; or
 - iv. The inclusion of any periods of startup, shutdown, or malfunction in emission calculations.
- [40 CFR 63.1510(s)] Monitoring Requirements-SAPUs**
- t. Except as provided in Section 2.2 D.1.u below, the Permittee must calculate and record the 3-day, 24-hour rolling average emissions of PM, HCl, and D/F for each secondary aluminum processing unit on a daily basis. To calculate the 3-day, 24-hour rolling average, the owner or operator must:
- i. calculate and record the total weight of material charged to each emission unit in the secondary aluminum processing unit for each 24-hour day of operation using the production weight information required in Section 2.2 D.1.m above. All performance test emissions results and all calculations must be conducted on the aluminum production weight basis;
 - ii. multiply the total production weight by the emission unit for the 24-hour period by the emission rate (in lb/ton of aluminum produced feed/charge) for that emission unit (as determined during the performance test) to provide emissions for each emission unit for the 24-hour period, in pounds.
 - iii. Divide the total emissions for each SAPU for the 24-hour period by the total aluminum produced by the SAPU over the 24-hour period to provide the daily emission rate for the SAPU.
 - iv. Compute the 24-hour daily emission rate using the following equation

$$E_{\text{day}} = \frac{\sum_{i=1}^n (T_i \times ER_i)}{\sum_{i=1}^n (T_i)}$$

Where: E_{day} = The daily PM, HCl, or D/F emission rate for the secondary aluminum processing unit for the 24-hour period;

T_i = The total amount of aluminum produced for emission unit i for the 24-hour period;

n = The number of emission units in the secondary aluminum processing unit; and

ER_i = The measured emission rate for emission unit i as follows:

| Emission Unit and ID Nos. | PM emission factor (lb/ton aluminum produced) | HCl emission factor (lb/ton aluminum produced) | D/F TEQ emission factor ($\mu\text{g}/\text{Mg}$ aluminum produced) |
|---|---|--|--|
| Group I Furnaces NOT Processing Only Clean Charge | 0.151 | 0.139 | 1×10^{-4} |
| Group I Furnaces Processing Only Clean Charge with Reactive Fluxing | 0.191 | 0.009 | NA |

- v. Calculate and record the 3-day, 24-hour rolling average for each pollutant each day by summing the daily emission rates for each pollutant over the 3 most recent consecutive days and dividing by 3.

[40 CFR 63.1510(u)] Monitoring Requirements-SAPU compliance by individual emission unit demonstration.

- u. As an alternative to the above procedures of Section 2.2 D.1.t above, the Permittee may demonstrate, through performance tests, that each individual emission unit within the secondary aluminum production unit is in compliance with the applicable emission limits for the emission unit.

Testing Requirements

- v. **Performance tests shall be conducted within 180 days of restart of these sources (ID Nos. 134-10 through 134-13, 134-10-PF1 through 134-13-PF1, and 134-10-PF2 through 134-13-PF2)** according to the requirements of the general provisions in 40 CFR 63, Subpart A, 40 CFR 63.1511 (Performance test/compliance demonstration general requirements), 40 CFR 63.1512 (Performance test/compliance demonstration requirements and procedures), and 40 CFR 63.1513 (Equations for determining compliance). **Additional performance tests shall be conducted once every five years** following the **restart** performance tests for affected sources and emission units (or sources representative of those units per the DAQ accepted testing plans) located at secondary aluminum production facilities.

[40 CFR 63.1516(a)] Recordkeeping - Startup, shutdown, and malfunction plan

- w. The Permittee shall keep records of each event and record and report if an action taken during a startup, shutdown, or malfunction that is not consistent with the procedures in the plan. Per 40 CFR 63.10(b), the records shall include:
- i. the occurrence and duration of each startup, shutdown, or malfunction of operation of process equipment,
 - ii. actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the affected source's startup, shutdown, and malfunction plan,
 - iii. all information necessary to demonstrate conformance with the startup, shutdown, and malfunction plan when all actions taken during periods of startup, shutdown, and malfunction (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) are consistent with the procedures specified in such plan. (The information needed to demonstrate conformance with the startup, shutdown, and malfunction plan may be recorded using a "checklist," or some other effective form of recordkeeping, in order to minimize the recordkeeping burden for conforming events),
 - iv. each period during which a continuous monitoring system is malfunctioning or inoperative,
 - v. all required measurements needed to demonstrate compliance with a relevant standard,
 - vi. all continuous monitoring system calibration checks,

- vii. all adjustments and maintenance performed on continuous monitoring systems,
- viii. procedures to determine and record the cause of the malfunction and the time the malfunction began and ended; and
- ix. corrective actions to be taken in the event of a malfunction of a process or control device, including procedures for recording the actions taken to correct the malfunction or minimize emissions.

[40 CFR 63.1516(b)] Reporting-excess emissions summary report

- x. Per 40 CFR 63.10(c), the Permittee shall submit a summary report of excess emissions postmarked on or before March 1 of each calendar year for the preceding six-month period between July and December and September 1 of each calendar year for the preceding six-month period between January and June. Each report must contain the information specified below:
 - i. all required continuous monitoring system measurements (including monitoring data recorded during unavoidable continuous monitoring system breakdowns),
 - ii. the date and time identifying each period during which the continuous monitoring system was inoperative,
 - iii. the specific identification (i.e., the date and time of commencement and completion) of each period of exceedance of a monitored parameter that occurs during startups, shutdowns, and malfunctions;
 - iv. the specific identification (i.e., the date and time of commencement and completion) of each time period of exceedance of a monitored parameter that occurs during periods other than startups, shutdowns, and malfunctions;
 - v. the nature and cause of any malfunction (if known),
 - vi. the corrective action taken or preventive measures adopted,
 - vii. the nature of the repairs or adjustments to the continuous monitoring system that was inoperative, and
 - viii. the total process operating time during the reporting period.

In order to satisfy the requirements of v., vi., and vii. above and to avoid duplicative recordkeeping efforts, the Permittee may use the affected source's startup, shutdown, and malfunction plan or records kept to satisfy the recordkeeping requirements of the startup, shutdown, and malfunction plan, provided that such plan and records adequately address the requirements of v., vi., vii. above.
- y. When no deviations of parameters have occurred, the Permittee must submit a report stating that no excess emissions occurred during the reporting period, otherwise a report must be submitted if any of these conditions occur during a 6- month reporting period:
 - i. an excursion of a compliant process or operating parameter value or range (e.g., total reactive chlorine flux injection rate, definition of acceptable scrap, or other approved operating parameter);
 - ii. an action taken during a startup, shutdown, or malfunction was not consistent with the procedures in the plan;
 - iii. an affected source (including an emission unit in a secondary aluminum processing unit) was not operated according to the requirements of this permit;
 - iv. a deviation from the 3-day, 24-hour rolling average emission limit for a secondary aluminum processing unit.
- z. Each report must include each of these certifications, as applicable:
 - i. For each group 1 furnace without add-on air pollution control devices and using pollution prevention measures that processes only clean charge material: "Each of the group 1 furnaces processed only clean charge during this reporting period." Include a list of all Group 1 furnaces operated during the reporting period.
 - ii. For each group 2 furnace: "Only clean charge materials were processed in the group 2 furnaces during this reporting period, and no fluxing was performed or all fluxing performed was conducted using only nonreactive, non- HAP-containing/non-HAP-generating fluxing gases or agents, except for cover fluxes, during this reporting period." Include a list of all Group 2 furnaces operated during the reporting period.

- aa. The Permittee must submit the results of any performance test conducted during the reporting period, including one complete report documenting test methods and procedures, process operation, and monitoring parameter ranges or values for each test method used for a particular type of emission point tested.
 - bb. Annual compliance certifications. For the purpose of annual certifications of compliance required by this permit, the Permittee must certify continuing compliance based upon, but not limited to, the following conditions:
 - i. Any period of excess emissions that occurred during the year were reported as required by this subpart; and
 - ii. all monitoring, recordkeeping, and reporting requirements were met during the year.
- [40 CFR 63.1517] Recordkeeping Requirements**
- cc. The Permittee must retain each record required by this permit for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent two years of records must be retained at the facility. The remaining three years of records may be retained off site. The Permittee may retain records on microfilm, computer disks, magnetic tape, or microfiche; and may report required information on paper or on a labeled computer disk using commonly available and DAQ/EPA-compatible computer software.
 - dd. In addition to the general records required by Section 2.2 D.1.w above, the Permittee must maintain records of:
 - i. For each group 1 furnace (with or without add-on air pollution control devices), records of 15-minute block average weights of gaseous or liquid reactive flux injection, total reactive flux injection rate and calculations (including records of the identity, composition, and weight of each addition of gaseous, liquid or solid reactive flux), including records of any period the rate exceeds the compliant operating parameter value and corrective action taken.
 - ii. For each continuous monitoring system, records required by Section 2.2 D.1.x above.
 - iii. For each affected source and emission unit subject to an emission standard in kg/Mg (lb/ton) of feed/ charge, records of feed/charge (or throughput) weights for each operating cycle or time period used in the performance test.
 - iv. Approved site-specific monitoring plan for a group 1 furnace without add on air pollution control devices with records documenting conformance with the plan.
 - v. Records of all charge materials for each group 1 furnace without air pollution control devices processing only clean charge.
 - vi. Records of all charge materials and fluxing materials or agents for a group 2 furnace.
 - vii. Records of monthly inspections for proper unit labeling for each affected source and emission unit subject to labeling requirements.
 - viii. Records for any approved alternative monitoring or test procedure.
 - ix. Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including:
 - (A) startup, shutdown, and malfunction plan;
 - (B) OM&M plan; and
 - (C) Site-specific secondary aluminum processing unit emission plan (if applicable).
 - x. For each secondary aluminum processing unit, records of total charge weight, or if the owner or operator chooses to comply on the basis of aluminum production, total aluminum produced for each 24-hour period and calculations of 3-day, 24-hour rolling average emissions.

E. Facility-wide affected sources

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 | State-enforceable only Modeled emission rates | 15A NCAC 2D .1100 |
| Toxic air pollutants | State-enforceable only Shall not exceed TPERs without obtaining permit | 15A NCAC 2Q .0711 |
| Toxic air pollutants | State-enforceable only Last MACT/Air toxics compliance demonstration | 15A NCAC 2Q .0705 |

State-enforceable only

1. **15A NCAC 2D .1100: CONTROL OF TOXIC AIR POLLUTANTS** - In accordance with the approved application for an air toxic compliance demonstration, the following permit limits shall not be exceeded:

| Emission Source(s) | Toxic Air Pollutant(s) | Emission Limit(s) |
|--|---|--|
| Two anode/cathode bake furnaces (ID Nos. 261-ABF-1 and 261-ABF-2) | Hydrogen fluoride Particulate fluoride Benzene Benzo(a)pyrene Arsenic Cadmium Sulfuric acid | 0.065 lb/hr and 1.56 lb/day 0.123 lb/hr and 2.94 lb/day 1.49 lb/year 2.413 lb/year 0.139 lb/year 6.605 lb/year 1.54 lb/hr and 36.96 lb/day |
| Building 160, Potline I (ID Nos. 201-PL-I and 202-PL-I) (17 stacks) | Hydrogen fluoride Particulate fluoride | 1.6 lb/hr and 38.4 lb/day 1.37 lb/hr and 32.86 lb/day |
| Potline I monovent 80/87 | Hydrogen fluoride Particulate fluoride | 3.12 lb/hr and 74.9 lb/day 2.66 lb/hr and 63.8 lb/day |
| Potline I monovent 81/86 | Hydrogen fluoride Particulate fluoride | 3.12 lb/hr and 74.9 lb/day 2.66 lb/hr and 63.8 lb/day |
| Potline II monovent 82/85 | Hydrogen fluoride Particulate fluoride | 3.12 lb/hr and 74.9 lb/day 2.66 lb/hr and 63.8 lb/day |
| Potline II monovent 83/84 | Hydrogen fluoride Particulate fluoride | 3.12 lb/hr and 74.9 lb/day 2.66 lb/hr and 63.8 lb/day |
| Anode assembly induction furnaces (ID Nos. 232-IMF-1 and 232-IMF-2) | Hydrogen fluoride Cadmium | 1.2 lb/hr and 28.8 lb/day 0.111 lb/yr |
| Anode butt blasting (232-ABBP-1) | Hydrogen fluoride Particulate fluoride | 0.039 lb/hr and 0.94 lb/day 0.118 lb/hr and 2.83 lb/day |
| Anode butt crushing (232-ABC-1) | Hydrogen fluoride Particulate fluoride | 0.039 lb/hr and 0.94 lb/day 0.118 lb/hr and 2.83 lb/day |
| Anode paste mixer 1 (ID No. 050-M59), anode paste mixer 2 (ID No. 050-M60), four anode mixer conveyor belts (ID Nos. 050-M59, 050-M90, 050-M91, and 050-M92), and anode press/vacuum pump (ID No. 050-5003VPS) | Benzene Benzo(a)pyrene | 93.86 lb/year 3.82 lb/yr |

| Emission Source(s) | Toxic Air Pollutant(s) | Emission Limit(s) |
|---|--|--|
| Building 50 monovent 16 | Benzene Benzo(a)pyrene | 0.0247 lb/year 0.0007 lb/yr |
| Building 50 monovent 17 | Benzene Benzo(a)pyrene | 0.0247 lb/year 0.0007 lb/yr |
| Building 50 monovent 18 | Benzene Benzo(a)pyrene | 0.0247 lb/year 0.0007 lb/yr |
| Building 50 monovent 19 | Benzene Benzo(a)pyrene | 0.0247 lb/year 0.0007 lb/yr |
| Chlorine emergency exhaust (ID No. 134-37) | Chlorine | 0.004 lb/hr and 0.102 lb/day |
| Process furnaces (ID Nos. 134-10 and 134-11) | Benzo(a)pyrene Hydrogen fluoride Chlorine Hydrogen chloride Arsenic Cadmium | 0.0002 lb/yr 0.13 lb/hr and 3.12 lb/day 0.8 lb/hr and 19.2 lb/day 1.6 lb/hr 0.028 lb/year 0.153 lb/year |
| Process furnace (ID No. 134-12) | Benzo(a)pyrene Hydrogen fluoride Chlorine Hydrogen chloride Arsenic Cadmium | 0.0001 lb/yr 0.065 lb/hr and 1.56 lb/day 0.4 lb/hr and 9.6 lb/day 0.8 lb/hr 0.025 lb/year 0.139 lb/hr |
| Process furnace (ID No. 134-13) | Benzo(a)pyrene Hydrogen fluoride Chlorine Hydrogen chloride Arsenic Cadmium | 0.0001 lb/yr 0.065 lb/hr and 1.56 lb/day 0.4 lb/hr and 9.6 lb/day 0.8 lb/hr 0.025 lb/year 0.139 lb/hr |
| Ingot plant monovent 43 | Arsenic Benzo(a)pyrene Cadmium | 0.059 lb/year 0.0003 lb/yr 0.32 lb/year |
| Shot blast cleaning (ID No. 206P-SB-1) | Particulate fluoride | 0.02 lb/hr and 0.48 lb/day |
| Cathode pitch storage tank (ID No. 139-PST) | Benzene Benzo(a)pyrene | 0.003 lb/year 0.0031 lb/yr |
| Cathode batch mixer (ID No. 139-M-1) Cathode batch mixer (ID No. 139-M-2) Cathode vibrating press (ID No. 139-B-4) Cathode cooling rack (ID No. 139-CBC) | Benzene | 39.63 lb/year |

| Emission Source(s) | Toxic Air Pollutant(s) | Emission Limit(s) |
|--|--|---|
| Hammermill/screens/screw conveyors (ID No. 050-GB), scrap house (ID No. 050), pan conveyor (ID No. 050-B-1), hammermill (ID No. 050-B-2), screw (ID No. 050-B-3), bucket elevator (ID No. 050-B-7), screens (ID No. 050-B-8), screw conveyor (ID No. 050-B-8A), bucket elevator (ID No. 050-B-10), and screw conveyor (ID No. 050-B-14A) | Hydrogen fluoride Benzene Benzo(a)pyrene | 0.05 lb/hr and 1.206 lb/day 0.053 lb/year 0.462 lb/yr |
| Building 050 general exhaust | Benzene Benzo(a)pyrene | 1.8 lb/yr 15.85 lb/yr |
| Bath crushing - ball mill, screw conveyor, two bucket elevators, vibratory feeder, screens, two screw conveyors (ID No. 204H-BM-1) | Particulate fluoride | 0.12 lb/hr and 2.88 lb/day |
| Bath crushing - two ball mill fines tanks (ID Nos. 204-T2 and 204-T6) | Particulate fluoride | 0.19 lb/hr and 4.56 lb/day |
| Fluoride unloading station (ID No. 140-F) and fluoride unloading station/storage tank (ID No. 140D) | Particulate fluoride | 0.009 lb/hr and 0.21 lb/day |
| Spent anode cleaning (ID No. 204M-001) | Particulate fluoride | 0.037 lb/hr and 0.9 lb/day |

- a. The building 160 and 160a stacks shall be free of raincaps or other flow restrictions.
- b. For compliance purposes, within 30 days after each calendar year quarter the following shall be reported to the Regional Supervisor, DAQ. The monthly maximum amount of particulate fluoride and hydrogen fluoride emissions (pounds per hour and pounds per twenty-four hours) during the last quarter, as determined using the most accurate available information, including emission source tests (excluding low alumina or low amp parametric tests that failed to demonstrate compliance with MACT) or emission estimates for Potline I, and Potline II. When source testing is used, emissions from the most recent source test conducted at or above the minimum established parametric operating parameters will be used as the emission factor for similar sources. Include the date and results of this test in the report.

Testing Requirement

- c. The Permittee shall conduct emissions testing for hydrogen fluoride emissions from the Anode Assembly Induction Furnaces (ID Nos. 232-IMF-1 and 232-IMF-2) to demonstrate compliance with the emissions limits above. Testing shall be conducted within 120 days of startup of the induction furnaces and conducted in accordance with a preapproved testing protocol.

State-enforceable only

2. **15A NCAC 2Q .0711: EMISSION RATES REQUIRING A PERMIT** - For each of the below listed toxic air pollutants (TAPs), the Permittee has made a demonstration that facility-wide actual emissions do not exceed the Toxic Permit Emission Rates (TPERs) listed in 15A NCAC 2Q .0711. The facility shall be operated and maintained in such a manner that emissions of any listed TAPs from the facility, including fugitive emissions, will not exceed TPERs listed in 15A NCAC 2Q .0711.
 - a. A permit to emit any of the below listed TAPs shall be required for this facility if actual emissions from all sources will become greater than the corresponding TPERs.
 - b. PRIOR to exceeding any of these listed TPERs, the Permittee shall be responsible for obtaining a permit to emit TAPs and for demonstrating compliance with the requirements of 15A NCAC 2D .1100 "Control of Toxic Air Pollutants".

- c. In accordance with the approved application, the Permittee shall maintain records of operational information demonstrating that the TAP emissions do not exceed the TPERs as listed below:

| Pollutant (CAS Number) | TPERs Limitations | | | |
|--------------------------------|---------------------|----------------------------|----------------------------------|-------------------------|
| | Carcinogens (lb/yr) | Chronic Toxicants (lb/day) | Acute Systemic Toxicants (lb/hr) | Acute Irritants (lb/hr) |
| Acetic acid (64-19-7) | | | | 0.96 |
| Benzo(a)pyrene (50-32-8) | 2.2 | | | |
| Beryllium (7440-41-7) | 0.28 | | | |
| Carbon disulfide (75-15-0) | | 3.9 | | |
| Carbon tetrachloride (56-23-5) | 460 | | | |
| Chloroform (67-66-3) | 290 | | | |
| Formaldehyde (50-00-0) | | | | 0.04 |
| Hexane | | | | 92 |
| Manganese | | 0.63 | | |
| Mercury | | 0.013 | | |
| Methylene chloride (75-09-2) | 1600 | | 0.39 | |
| Methyl ethyl ketone (78-93-3) | | 78 | | 22.4 |
| Nickel | | 0.13 | | |
| Phenol (108-95-2) | | | 0.24 | |
| Styrene (100-42-5) | | | 2.7 | |
| Toluene (108-88-3) | | 98 | | 14.4 |
| Xylene (1330-20-7) | | 57 | | 16.4 |

State-enforceable only

3. **15A NCAC 2Q .0705: EXISTING SOURCES AND SIC CALLS** – As of **July 3, 2002** (and as amended **February 21, 2003** and **November 20, 2003**), emissions of toxic air pollutants have been demonstrated on a facility-wide basis (excluding those sources exempt under 15A NCAC 2Q .0702 “Exemptions”) that each of the toxic air pollutants (TAPs) emitted from all sources at the facility are either below its respective toxic permit emission rates (TPER) listed in 15A NCAC 2Q .0711 “Emission Rates Requiring a Permit” or in compliance with modeled emission rate per 15A NCAC 2D .1100 “Control of Toxic Air Pollutants.”

SECTION 3 - GENERAL CONDITIONS (v2.22.1)

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

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)(3)]

The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

CC. **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [15A NCAC 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. 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.

ATTACHMENT

List of Acronyms

| | |
|------------------------|--|
| AOS | Alternate Operating Scenario |
| BACT | Best Available Control Technology |
| Btu | British thermal unit |
| 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 |
| NCAC | North Carolina Administrative Code |
| NCGS | North Carolina General Statutes |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| NO_x | Nitrogen Oxides |
| NSPS | New Source Performance Standard |
| 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 | Reasonable Available Control Technology |
| SIC | Standard Industrial Classification |
| SIP | State Implementation Plan |
| SO₂ | Sulfur Dioxide |
| tpy | Tons Per Year |
| VOC | Volatile Organic Compound |